

REPORT OF THE PROCEEDINGS  
OF THE  
NORTHUMBERLAND AND DURHAM  
MEDICAL SOCIETY.

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SESSION 1871-72.

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NEWCASTLE-UPON-TYNE:

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1872.

# Northumberland and Durham Medical Society.

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# NORTHUMBERLAND & DURHAM MEDICAL SOCIETY.

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THE Annual Meeting was held on Thursday Evening, September 28, 1871—Dr. Burnup, President, in the chair.

The following gentlemen were elected members :—

Dr. Wickham, Coxlodge.

Mr. Shirley Arundell, Gateshead.

The following gentlemen were proposed for election as members :

Dr. Foss, Stockton-on-Tees.

Mr. John W. Macdonald, Willington.

The Secretary read the Annual Report as follows :—

## REPORT OF THE COMMITTEE.

It is with great pleasure that the Committee of your Society are able to report favourably upon the number and interest of the papers read during the last session.

The pathological specimens exhibited have been numerous, and some of them of great value.

The Committee regret that the financial state of the Society has rendered it obligatory to discontinue the publication of the tables of registration of disease, so ably and carefully prepared by Dr. Philipson. It had been hoped that the Government might have been induced to take the matter in hand, and failing this, it was thought probable that the British Medical Association might offer some assistance ; in this, however, the Committee had been disappointed, and these valuable tables have been relinquished.

In the report of last year the attention of members was called to the necessity of punctually paying their subscription. In doing so again this year, the Committee would remind members of the Rule IX., which they will feel compelled to rigidly enforce.

It is particularly requested that gentlemen who intend reading papers and exhibiting specimens should give notice as long as possible beforehand, so that the distribution of work on each evening may be regulated. The number of members upon the books last year was 88. Of these 1 resigned, 1 died, 3 were expelled, and 1 left town. The number of new members who joined last year was 8. Hence there are at present upon the books 90 members.

The following are the names of gentlemen who kindly favoured the Society by reading papers and exhibiting specimens :—

#### PAPERS.

DR. EMBLETON—Notes of a case in which death occurred after a course of intemperance and a dose of an ounce of chloral hydrate. Case of Hemiplegia, with partial aphasia

MR. S. FIELDEN—Case of puerperal eclampsia, in which chloral was administered.

DR. EASTWOOD—On the nomenclature of so-called mental disease.

DR. GIBB—Curiosities of womb practice.

MR. JEAFFRESON—The microscope in cancer.

DR. CHARLTON—The modern nomenclature and treatment of phthisis.

MR. JACKSON—The treatment of small-pox.

MR. BELL—Case of ulceration of meatus urinarius of ten years' standing.

MR. MANSEN—Case of compound dislocation of the knee.

#### SPECIMENS.

DR. BRAMWELL—Villous disease of the bladder—large fatty tumour.

DR. GIBB—Cancer of mamma—enlarged lymphatic glands.

MR. LUKE ARMSTRONG—Foreign body removed from the bladder. Leg amputated for malignant disease.

MR. JEAFFRESON—Dissecting aneurism of aorta.

MR. BELL—Hypertrophy of the cervix uteri.

DR. NESHAM—Deformed foetus.

DR. PAGE—A patient who had recovered after a compound comminuted fracture of skull. Several patients upon whom skin grafting had been practised. Polypus of uterus. Kidneys of patient who died of pyelitis. Patient who had recovered from

compound fracture of femur arm and skull. Malignant tumour of fibula. Ovarian cyst, etc., etc.

The financial statement of the Society shows a deficiency of £7 14s. 9d. This, your Committee regret to state, is chiefly due to arrears in the payment of subscriptions, which amount to no less than £6.

#### FINANCIAL STATEMENT.

CREDIT.		DEBIT.	
Balance of last year's account .....	£3 15 4	Expenses .....	£54 0 1
Subscriptions ... ..	42 10 0		
	<hr/>	Deficiency	£7 14 9
	£46 5 4		

LUKE ARMSTRONG, }  
JOHN HAWTHORN. } AUDITORS.

Dr. GIBSON, in moving the adoption of the report, expressed his surprise and regret that the Society should find itself in debt, it was a condition of things which had never before existed, and he sincerely hoped that members, by more punctually paying their subscriptions, would prevent its recurrence. On the whole, he considered the past session as having been a very successful one. There had been several excellent papers read, much useful discussion, and a great deal of valuable and interesting work gone through. The condition of the Society was, on the whole, he considered, favourable, thanks to its officers, upon the exertions of whom much depended, and he thought he could safely say that the Society was one of the best in the kingdom.

Dr. PAGE seconded the adoption of the report, and the motion was carried.

Dr. BURNUP wished to express the regret he felt that the Society should be in debt. He thought it was a disgrace to the profession that members who joined a Society of this kind, should neglect to pay the small subscription demanded of them.

On the motion of Mr. LUKE ARMSTRONG, seconded by Dr. ARNISON, Mr. Dodd was re-elected paid Secretary to the Society.

The ballot for the election of officers was then proceeded with, Dr. Macaulay and Dr. Aitcheson being appointed scrutineers.

A vote of thanks was proposed to the President by Dr. GIBSON.

Dr. PHILIPSON seconded the motion, which was carried unanimously.

A vote of thanks to the Secretary concluded the meeting.

The first monthly meeting of the Northumberland and Durham Medical Society was held in the library of the Infirmary on Thursday, the 12th of October—Dr. Burnup, president, in the chair.

Dr. BURNUP, in suitable terms, thanked the members of the Society for having re-elected him president for the ensuing year.

The following gentlemen were elected members of the Society:—

Dr. Foss, of Stockton-on-Tees.

Mr. J. W. Macdonald, Willington.

The following gentlemen were proposed for election:—Messrs. George Tennant and Adam Wilson, of the Newcastle Dispensary, proposed by Mr. Armstrong, Dr. Humble, and Dr. Page.

Mr. W. T. Kaye, of the College of Medicine, proposed by Mr. Luke Armstrong, Dr. Humble, and Dr. Gibb.

Dr. PAGE exhibited the following specimens:—

1. The left breast removed in the Infirmary, by Dr. Heath, from a married but barren woman, aged 29 years. Patient noticed a swelling, the size of an egg in her breast in February. It increased rapidly, but without much pain, and occasionally blood flowed from the nipple. Last August, in consequence of the tumour having become very large, and there having been a copious discharge of blood from the nipple, Dr Heath was consulted, and he evacuated about a pint of bloody fluid, and injected a cyst with iodine. The treatment was repeated on two other occasions. On the day of the operation, Oct. 10th, there was a fungoid ulcer, about the size of a florin, through which constantly flowed guttatim, a thin slightly bloody coloured and most offensive fluid. Upon examination, after removal, the internal surface of the cyst was found to be in a sloughing condition, and the tissue surrounding it presented all the appearance of what Sir Jas. Paget describes as a very rare disease in this country, though he says it is common in France, Germany, and America, medullary cancer of the female breast.—*Vide* Paget's Surg. Pathol., Edit. by Prof. Turner, fol. 657.

2. A plaster cast of an extensive ulcer of the leg, together with the patient from whom it had been taken. The ulcer at the time the cast was made was very deep, extending nearly round the limb, and was six inches in length. Skin grafting had been practised with a good result. The man has been under treatment three months, and only a small, and that rapidly contracting, ulcer remains at the back part of the limb.

Dr. PAGE also exhibited a patient suffering from an aneurism of third part of right subclavian. The man, a coachman, aged 55, says he has always been a healthy and steady man, and that he has never had syphilis. Towards the end of last year often felt pains in the right shoulder and down the right arm, which he attributed to rheumatism. In January, 1871, after a rather severe struggle with another man, he noticed a small swelling, the size of a nut, at the outer margin of the sterno-mastoid; is sure there was no swelling in the neighbourhood before. The space between the sterno-mastoid trapezius and clavicle is now occupied by an aneurismal tumour. The right pupil is dilated, and there is a marked difference between the pulse at the right and left wrist. The right is soft and feeble, the left has the hammer-light stroke so often associated with aortic-disease. There is a systolic bruit at the base of the heart, heard loudest, however, as you approach the aneurism, from the bruit of which it is very difficult to differentiate it. There is some slight but distinct indication of fatty degeneration of both corneæ.

3. Uric acid calculus, weighing 98 grains, removed by Mr. L. Armstrong, on Tuesday, from the bladder of a man 24 years of age, who had suffered from urinary irritation almost from birth.

Mr. JEAFFRESON exhibited a patient from whom he had removed a melanotic tumour of the cheek. The history of the case was as follows :—Six months ago, the patient observed a slight swelling on the inner side of the left cheek; it gave him no pain or inconvenience, but gradually increased till, having acquired the size of a small egg, it became an object of considerable disfigurement. Externally, the skin was adherent, and had a slight bluish tint internally it projected into the mouth, and was covered by mucous membrane, which was unaltered in appearance. The tumour was tense and elastic, and had the feeling of a cyst distended with fluid. An exploratory incision was made into the tumour on its inner surface. No fluid exuded, but on making firm pressure, some black tarry-looking matter having the consistence of softened brain substance escaped. Under the microscope, this was found to have all the appearances of well marked melanotic cancer. Mr. Lightfoot kindly assisted Mr. Jeaffreson in removing the growth. An incision was made from the angle of the mouth transversely across the cheek to the posterior margin of the ramus of the jaw, thus separating the upper part of the tumour; a second, starting from the same point and joining the upper at the place of its termination, included the growth in an ellipse, the whole of which was removed together with the skin and mucous membrane attached to it. It required great force to draw the lips of the wound across the large chasm thus made in the cheek.

They were, however, made to unite by means of hairlip pins ; and twisted suture, and in ten days the man left town perfectly cured. It was an interesting point in connection with this growth that three months previous to its appearance the patient had a small dark coloured wart removed by ligature from his upper lip.

Mr. JEAFFRESON also exhibited a patient who had lost the lens and the whole of the iris of the left eye, a considerable amount of the vision remaining. Four months ago, he received a blow upon the eye, which ruptured the sclerotic at its inner and lower margin. When first seen, it was impossible to diagnose the amount of injury, the anterior chamber being filled with blood. The patient was lost sight of until a few days since, when the eye was found to be in the following condition :—The wound in the sclerotic was healed, the ocular tunis free from inflammation, cornea perfectly transparent, normal in curvature, no trace of iris remaining, lens absent. Oblique illumination shows a small white speck, the size of a pin's head, upon the anterior surface of the hyaloid membrane. With the ophthalmoscope the fundus, which could be clearly seen, exhibited on traces of morbid action. The refraction was very highly hypermetropic, such as is noticed after cases of cataract extraction.

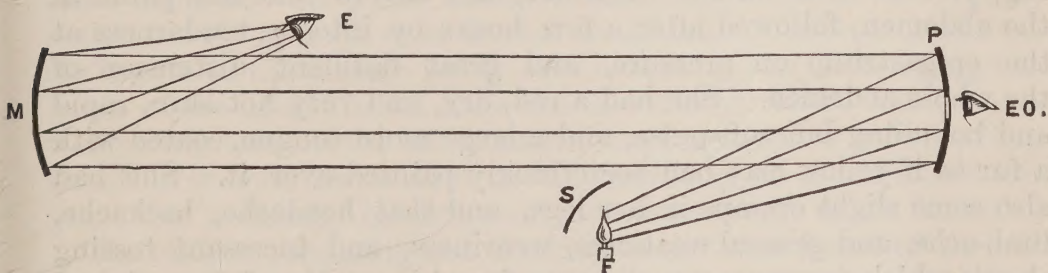
$$V \text{ with } a + 7 = \frac{20}{xv.} \text{ for distance with } a + 3 = \frac{2}{vi\frac{1}{2}}.$$

There is a slight external strabismus, probably the result of want of harmony between the two eyes. Mr Jeaffreson remarked that this case was probably unique of its kind. It was not unusual to meet with cases in which, after an injury, the lens had undergone absorption, or in which the iris had become detached partially, or in its entire circumference ; but he could find no record of a case in which the whole of the iris and the lens had disappeared in consequence of a blow. In this case, a kind of natural operation for cataract, plus the removal of the whole iris, had been effected, leaving as much power of sight as is generally left after a skilful performance by the surgeon. Looking at the comparatively short time in which the eye had recovered itself, he thought there could be little doubt that at the time of the injury, the iris and the lens had both escaped through the wound.

#### A NEW REFLECTING OPHTHALMOSCOPE.

Mr. JEAFFRESON said that after the microscope and the stethoscope, the ophthalmoscope was undoubtedly one of the greatest discoveries of modern science. As we become familiar with its use, so does the domain of its utility become extended. Not content with revolutionising the whole subject of ophthalmic surgery, it had already begun to throw new light upon many difficult questions not only in connection with local and cerebral disease, but also many

general constitutional states. It is thus destined to become not only as useful to the physician, as to the ophthalmologist. Those who have read the works of Clifford Allbutt, and Hughlings Jackson in England, Galezowski and Bouchut in France, and the many able German pathologists, who have made this subject their special study will see, that to all those, who in medicine or surgery would keep pace with the day, the use of the ophthalmoscope is a "*Sine quâ non*." All the hand instruments at present in use require considerable time and experience to become familiar with their employment, hence, except when this has been required during student life, the general practitioner has rarely time or opportunity to perfect himself in their manipulation. The consequence of this is that in many cases where a consultation has become necessary, the general practitioner has to take the word of the specialist for granted, as to the condition of the fundus. This is obviously unsatisfactory, and one of the great advantages of the new instrument is that it enables the fundus to be exhibited to any unskilled observer, with the clearness of a well executed diagram. Klaunig was the first to conceive and manufacture a reflecting ophthalmoscope. The size of his mirrors were, however, too large, and the result unsatisfactory. Dr. Burke, who was assistant to the celebrated Dr. Wecker, in Paris, perfected the invention, and the instrument at present exhibited, with the exception of a few mechanical improvements, is a *fac-simile* of his. It is the first manufactured in England, and was the second only existing in the United Kingdom at the time it came into my possession, six months ago. It consists of two paraboloid mirrors, 4 inches in diameter, one having a focal length of 9 inches, the other of 19 inches, the latter perforated in the centre, like the ordinary ophthalmoscopic mirror, both mirrors are swung in a bracket, which allows of a vertical and lateral motion, and this bracket is fixed to a telescopic pedestal, which allow of the mirrors being raised and lowered at pleasure. The chin of the person whose eye is to be examined is placed upon a rest, specially constructed, that its height may also be varied according to circumstances.



The above diagram illustrates its mode of action—F represents a lamp flame placed in the focus of P, the perforated mirror.

The diverging rays from F are rendered parallel by P, and are thrown upon M, the second mirror; here they are again converged at the focal length of M, where the eye under examination is situated. Now the reflected rays from the fundus return to in forming an enlarged image of it which is perceived by EO, the eye of the observer looking through the perforation in P. To avoid reflections, it is necessary that the patient's eye, the mirrors and the lamp flame, should all be on exactly the same level, and in order to attain this with accuracy, the telescopic pedestals are graduated to a scale.

The instrument can be used with or without atropine, in the latter case, the field of vision is of necessity much contracted, but the definition remains very clear.

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## NOTES OF SEVEN CASES OF POISONING BY SEWAGE WATER.

By C. J. GIBB, M.D.

ON the 8th of August, the weather having been exceedingly hot for some days, I was requested to visit an establishment where several of the servants had taken suddenly ill. I found four female servants had become ill during the night, and were in bed; two more became affected on the following day, and a male servant had been compelled to go to bed ill of the same complaint. Six out of the eight female servants of the house were affected, and one of the four male servants.

The symptoms in all were very much alike, but a young female servant presented the worst features. She had felt some slight weariness and nausea the day before, but did not consider herself ill until during the night, when she was seized with severe vomiting, profuse dark bilious diarrhoea, and severe colic-like pains in the abdomen, followed after a few hours by intense tenderness at the epigastrium on pressure, and great flatulent distension of the whole abdomen. She had a red, dry, and very hot skin, rapid and bounding but soft pulse, and a large moist tongue, coated with a fur as if yellow clay had been thickly painted over it. She had also some slight cramps in her legs, and that headache, backache, limb-ache, and general weakness, weariness, and incessant tossing about, which accompany such acute feverish attacks of stomach and intestinal disorder. She constantly exclaimed she was going to die, so sinking and ill were the feelings she experienced.

These violent symptoms continued for thirty-six hours. Slight delirium set in during the second night. All the symptoms abated considerably during the morning of the second day, more as if nature had become exhausted than that the disease was in process of resolution, for on the third day a fresh accession of violent vomiting and purging, with pain and distension of abdomen, and high fever recurred, lasting, however, only about twelve hours. After this relapse, all the symptoms gradually lessened in severity, slight vomiting and purging continuing for two more days. By the end of the week, she was able to digest broths and farinaceous liquids, and although unable to sit out of bed, was carried to her own home, where she quickly recovered her strength. There appeared to be a feeling of such intense nausea all through the attack, that even when her skin was burning hot, she did not manifest that eager desire to drink cold or iced liquids, which is so marked a symptom of regular fevers.

The symptoms of two of the other female servants nearly approached this one in severity ; a fourth one had the vomiting, diarrhœa, colicky pain, and nausea in a minor degree, with only very slight fever and constitutional depression, whilst the sixth continued at work, and only felt slight weariness, nausea, diarrhœa, and loss of appetite for a few days.

On my first visit, I was convinced that all of them were suffering from one common cause of disease, most probably from some irritant food or the effluvia of some deranged drain ; but although I traversed the house, questioned the cook, and examined all the drains and water closets, I failed to discover any cause to account for the outbreak. They all complained of having been completely worn out by very hard work during the preceding week of intensely hot weather, and of being dripping with perspiration all day long, and to this they attributed their illness. Two days afterwards, however, I discovered they had been compelled to send to a neighbouring pump for drinking water during the hot weather, the ordinary drinking water from the cistern of the house having become so foul, even to the smell, that they were compelled to cease using it. They had, however, according to their own account, drank it very largely, even in that condition. I at once concluded the source of the disease lay in the cistern, and on questioning the heads of the house, found they did not know where the cistern was placed, and that it had certainly not been cleaned out for a long time. I at once sent a note to the Secretary of the Water Company, and he kindly investigated the water supply of the house.

The cistern supplying the drinking water was found under the floor of an upper water-closet, with overflow pipes so placed that when a negligent servant threw the contents of her slop pail into the water-closet, and made it to overflow, the overflow found its

way into the cistern of drinking water. The following is an extract from the letter I received from Mr. Secretary Main, after he had completed his survey :—"It was difficult to say how much dirt was in this cistern when I examined it this morning, as the man no sooner got into it than the whole became black and greasy looking. The water standing in a cistern only ten inches deep, and in a filthy condition, must soon putrify. The arrangement of passing the water through such a cistern before being used is bad, it is so small that it is of no use as a store, and it must at all times, I should think—exposed as it is to the dust and atmosphere of the water-closet,—have a tendency to render the water impure. I should recommend that a cistern much deeper should be put up in a better position, or that the taps for cooking and drinking water be entirely disconnected from the present cistern, and the supply taken direct from the main pipes."

There can, I think, be no doubt the putrid water was the immediate cause of the illness, and that the symptoms arose from sewage poisoning, intensified by the exhaustion of hard work, and the predisposition to such complaints which existed during the exceptionally hot weather prevailing at the time. The symptoms approached in severity those of an irritant poison. The septic influence of the putrifying agent was apparent in the intense nausea and depression. The symptoms resembled in some points a very acute or explosive attack of enteric or typhoid fever, yet the absence of all eruption, and the comparatively short duration of the attacks, made it impossible to classify it as a specific or sporadic fever.

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## ON THE MODERN TREATMENT OF OBSTRUCTION OF THE BOWELS.

By EDWARD CHARLTON, M.D.

THE progress of medical science is, perhaps, in few instances better illustrated than by the changes that have of late taken place in the treatment of obstruction of the bowels. There are still practitioners living who, true to their early teaching, insist on the necessity of forcing a passage at all risks, who regard with horror the idea of the bowels remaining unopened for a week, as absolutely incompatible with all hope of recovery. In our early days, the unfortunate patient who suffered from the disease was allowed not a moment of rest ; one purgative was poured in on the top of another, regardless of the vomiting and the increased torture

thereby occasioned. It is only within the last 20 years that a better policy has prevailed. It was, indeed, a terrible innovation to propose that calomel and jalap and castor oil should be withheld in cases of obstinate constipation, and that opium, the remedy of all others for the opposite condition of diarrhœa, should be substituted. Even before this time, in 1850, we ourselves had diverged from the accustomed path, and had recognised the advantage of treating by rest, and abstinence from food and purgatives. In 1850, we had treated a case of obstruction of the bowels, with fæcal vomiting, and which had already lasted four or five days, with total abstinence from food and drink, ice alone by the mouth, and beef tea and port wine injections, two or three times a day. You will find the case recorded in the first part of the Transactions of this Society published in 1851. At the end of thirteen days, the bowels were opened with the aid, perhaps, of the galvanic current, which, however, was not applied till flatus had been passed.

It is well known that intestinal obstructions are of various kinds,—that they may arise from very different causes, and may require suitable changes in their treatment. Some of these causes may be purely internal to the intestines, as in fæcal accumulation, others may depend upon partial paralysis of the gut, while in others there may be intussusception, or else strangulation, of a part of the intestine by a band of false membrane forming a species of internal hernia. Whatever may be, however, the cause of the obstruction, we submit that the old rule of forcing a passage is an erroneous one, and that when vomiting and pain exist in the bowels, with obstinate constipation, we should abstain from all purgatives whatsoever. Most of the fatal cases of intestinal obstruction that we have seen had been previously treated on the old plan, and no doubt the symptoms had thereby been greatly aggravated. Another great point in the successful treatment of this condition is the enforcing, at the earliest possible moment, a strict abstinence from food and drink. The latter is almost as essential as the former, and drink is more liable to be indulged in, as the patients often suffer from intolerable thirst. Nothing keeps up the exhausting sickness more than partaking largely of fluids, and large quantities of tea and other drinks are often given to help the operation of the powerful purgatives which the patient has already swallowed. Modern research has shown that the vomiting is often really rather the result of simple regurgitation rather than of reversed peristaltic action. That movement indeed continues in its normal direction, but a central backwards current is established when the intestine is filled to excess, and this finally produces vomiting. It is, therefore, of paramount importance that food and drink should be alike withheld in all cases of

suspected obstruction. Ice may be placed on the tongue to allay the burning thirst, while life may be sustained for weeks by nutrient enemata alone.

In accordance with modern theories, we have two medicines which are chiefly, we think, to be relied upon in the treatment of this complaint, viz., opium and belladonna. They may be used separately or combined. In some cases opium, when given by the mouth, increases the vomiting, just as it may produce morning sickness when given at night as a narcotic; while belladonna, according to our experience, has no such action at all; but tends, we think, to allay sickness rapidly. Both evidently arrest peristaltic action, and both consequently allay the pain thus produced. During the present year we have had opportunities of trying the action of belladonna and opium in intestinal obstruction, and with very satisfactory results. A young man, of 24, was attacked with constipation, severe pain in the bowels, and vomiting; on or about the 1st of March. He had previously been rather intemperate, and had just returned from a long winter voyage, during which he had lived on salted, and often on badly cooked, provisions. We saw him first on the 2nd of March, and the bowels had not been opened for three days before. The abdomen was much distended, and extremely tender on pressure, and below the umbilicus, from left to right, there could be felt a pyriform mass, extending from the left iliac region to the cæcum, where it was the largest and most defined. There was incessant thirst, great craving for liquids, which were almost immediately vomited, pulse 104 to 108, but no great heat of skin. We immediately ordered all food and drink to be discontinued, and ice to be taken by the mouth and nutritive injections to be given twice or thrice a day. One grain of opium was given every four hours in pill; this very soon relieved the pain, but did not arrest the vomiting: indeed, the next morning, though he had passed a tolerably easy night, the vomiting had, if anything, increased. We then ordered half a grain of belladonna to be given every four hours, and after the first dose the vomiting ceased, and the pain almost entirely abated. On the 8th and on the 10th of March, he had a tolerably natural evacuation, but on the next day, the 11th, no belladonna having been given since our last visit, he was much worse. The pain and sickness were incessant, the bowels were again greatly distended, and so tender that we could hardly examine them at all. We immediately resumed the belladonna, and with the same favourable effects as before. On the succeeding days several stools were passed, and the patient was soon convalescent.

On the 1st of May, I was called to see a gentleman, aged 57, who had been attacked thirty hours before my visit with intense colic, accompanied with vomiting and with distension and obstruc-

tion of the bowels. Constipation had already existed for some days, and some purgative medicine had been given, which produced a copious stool, but eight hours after the last evacuation, he was seized with the symptoms above described. The vomiting was excessive, and was immediately provoked when any fluid was swallowed, however small it was in quantity. The patient had never previously been subject to colic or constipation. The pulse was about 90, and of good strength; the tongue was exceedingly foul. The pain was referred chiefly to a spot half-way between the umbilicus and the cæcum, and here there was to be felt distinctly a rounded mass, about the size of the clenched fist, and pressure on this greatly increased the pain. We pursued the same plan in this case as in the former one, but as we could not immediately obtain good and fresh extract of belladonna, we gave one grain of opium, which, as before, relieved the pain, but did not abate the sickness. In three days after giving the half-grain dose of extract of belladonna, the distension of the bowels had greatly diminished, and in three days more faecal stools were passed, but at first only in very small quantities. By the 17th of May, the distension of the bowels had entirely subsided, the hard mass in the intestines had disappeared, the tongue had become clean, and the patient could venture on a little solid food. I will not venture to theorise on the nature of the obstruction in these two cases, but I can vouch for the treatment having been successful.

On the 3rd of September, I was requested to see a gentleman, aged 53, a man of moderately temperate habits, who had been suffering for a week before from slight pain in the bowels, with constipation, but had been able to continue his occupation till the last day of August. The pain on that day increased so much that he was obliged to take to his bed. The bowels had, on the occasion of my first visit, been obstructed for six days. There was constant pain with agonizing exacerbations, and great distension of the bowels, but no absolute vomiting. The distension had only taken place during the last three days, but before that, a mass of considerable size could be felt in the neighbourhood of the cæcum. On account of the great distension of the bowels, it was difficult, on the 3rd of September, to ascertain if this were still present; but I satisfied myself by repeated examinations on this and subsequent days, that a long pyriform tumour, with its head towards the cæcum, lay across the abdomen, and that this head seemed to curl upwards towards the umbilicus.

We substituted, in this case, belladonna for opium, and again with good success. We gave, however, we think, too strong doses of the drug, one grain every four hours, for it seemed to produce, during the three days that it was used, a good deal of wandering delirium. The pulse at first was only 80, and continued so till about the 6th

of September, when it rose to 120, the skin became hot, the tongue dry and black, while the distension of the bowels continued, without any stool. This feverish condition lasted for about four days. On the 7th, there seemed to be a little faecal matter in the stools passed after the beef tea injections, and the next day, the 8th, a large quantity of loose shreddy matter, like the debris of intestine, was passed without much effort. This shreddy matter exhaled a most horribly gangrenous odour, and continued to pass for three days, after which faecal matter came away in small quantities at first, and then more abundantly. On the 6th, we had omitted the belladonna, and gone back to the opium, and we continued to give opium and belladonna in diminished doses, during the remainder of the time we were in attendance. After the gangrenous matter came away, the fever subsided, the pulse fell again to 88, and the tongue became clean. On examination of the abdomen on the 10th September, we could find no trace of the tumour that before existed, and there was only one spot between the umbilicus and the caecum, where the patient complained of pain on pressure. He has since suffered much from attacks of colic and partial obstruction, and is always best when the stools are kept by medicine as much as possible in a liquid state. We think it probable that there was here intussusception in the lower portion of the small intestines, and that the incarcerated portion of the gut became gangrenous, and was thrown off piecemeal in the form of shreds, while the present colic is probably due to the stricture that is necessarily formed at the point where the bowels mortified and came away. The patient can hardly then as yet be considered out of danger, but time and the pressure of faecal matter will probably dilate the stricture, and render the action of the bowels more easy. The patient is still limited to liquid food, and is very slowly regaining his strength. In all these cases, belladonna seems to have answered well, but in the last, as there was no vomiting, opium was quite as efficacious as the former drug. The absence of vomiting was due, we believe, to food and drink having been very early withheld, and to the fact that no severe measures were from the beginning adopted to force a passage.

# NORTHUMBERLAND & DURHAM

# MEDICAL SOCIETY.

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THE second monthly meeting of the Society was held on Thursday evening, November 9th, 1871; Dr. BURNUP, President, in the chair.

The following gentlemen were elected members of the Society :—

Mr. George Tennant, Newcastle.  
Mr. Adam Wilson, Newcastle.  
Mr. W. T. Kaye, Newcastle.

The following gentlemen were proposed for election :—

Dr. Savage, Nenthead.  
Mr. W. PAnson, jun., Newcastle.

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## PATHOLOGICAL TRAY.

Dr. BRAMWELL (North Shields) exhibited a specimen of that very rare form of monstrosity called "cyclopia." The child was born of a mother who had previously had five healthy children, and was a twin, its fellow being free from any deformity. They were born at the seventh month, and only lived a quarter of an hour after birth. The single eye, which was a very large one, was situated in the centre of the face, and below the nose, which was also peculiar in its structure, being long, flexible, and devoid of cartilages.

Dr. PHILIPSON exhibited a fatty tumour for Mr. Lightfoot.

Dr. PAGE exhibited two calculi, extracted by Mr. Luke Armstrong. The first was lithic acid; the second was oxalic acid coated with phosphates.

Mr. JEAFFRESON exhibited a boy who was the subject of central congenital cataracts. He remarked that, although congenital cataract assumed a great variety of forms, the present was cer-

tainly very rare. A perfectly circular and central portion of the lens substance was cataractous, the marginal portions being clear, and the capsule unaffected. In the ordinary condition of the pupil the patient's sight was much impaired owing to the cataract being larger than its area, but with the use of atropine the clear peripheral portion being exposed, allowed a fair measure of sight. In these cases many ophthalmic surgeons recommend that a large iridectomy should be performed opposite a clear portion of the lens, but Mr. Jeaffreson thought that in this case the use of atropine served every purpose.

Dr. PAGE introduced the following cases:—A child, two years of age, in whom the muscles of the back have lost their power of maintaining the spine in its normal position. When the boy is placed upon his feet, the spine is arched very considerably backwards, and the occiput sinks between the shoulders, apparently from the loss of sustaining power in the sterno mastoids and other muscles of the neck. There is no muscular rigidity anywhere, no paralysis of the limbs, no lateral distortion of the spine, nor any tenderness over the vertebræ. The child seems to suffer no pain, is well nourished, cheerful, and able to enjoy a liberal diet. The condition has followed an accident gradually. Eleven months ago, the child fell from its mother's arms upon its back, and must have been very much hurt, for he screamed violently for some hours, and has since often had fits of crying, more particularly at night.

II.—A bookbinder, 25 years of age, punctured his left arm a little above the wrist, in the course of the median-nerve, with a narrow-bladed knife, in June. Immediately after the accident, which was attended with some bleeding, patient noticed that the thumb, the two first fingers, and half the ring were stiff, and in two days the sensibility of the first and second fingers was quite destroyed. The wound healed by the first intention. Successive crops of bullæ appeared upon the first two fingers till the middle of July, from which date patient considered himself improving, as he was able to lift his hand and complained only of stiffness. On the 9th of August, however, mortification of the first finger set in, and on the 20th, amputation of the two last phalanges was performed by my friend, Mr. W. I'Anson, by whose kindness I am permitted to bring the case under the notice of this Society. It appeared as if the second finger would also die, but it has not as yet done so. There is now atrophy of the ball of the thumb, tenderness along the course of the branch of the median supplying the thumb, impaired and altered sensibility of the remaining portion of the first, of the whole of the second, and half the third finger. There is also a considerable want of power in the hand generally.

## NEWCASTLE SMALL-POX AND FEVER HOSPITALS.

CASE OF CORYMBO-CRYSTALLINE SMALL-POX NOT  
VACCINATED, WITH CATALEPTIC COMPLIC-  
ATIONS: DEATH.

By H. E. ARMSTRONG.

*August 12th, 1871, 9 a.m., 9th day of illness.*—M. A. C., æt. 24, married, has had a child of four months at breast. Small-pox eruption vesicular almost confluent on face: close, semi-confluent (rather patchy) on arms: discrete, but close on trunk and lower extremities. A few petechial flattish vesicles appear about shoulders, &c. Face swelled, of rosy colour, eye-lids partly closed. Patient rambled during last night, but is at present rational. Pulse, 102; tongue, slightly furred; bowels, said to be open.

8 *p.m.*—Was delirious and unquiet till about 11 a.m., when she fell into a death-like stupor, which still continues. At present is lying on right side, with knees partly drawn up, and saliva flowing from mouth. But for the rosy hue of her face, the appearance of the patient suggests the idea that she is dead. With the back of my hand before her open mouth, the warm breath is plainly felt as it issues from the lips. Respirations, 24 per minute. Temperature, 100 degrees. Arms remain in whatever posture they are placed, and on putting them in position, I am sensible of her muscular assistance. Thus, when the thermometer is placed in the axilla, the forearm drawn over the chest, her arm slightly pressed towards the ribs. She cannot be roused. At times gives a cough or swallows down saliva, as a healthy person would do. While I watch her, she has turned suddenly over upon the back. Pulse, 120, feeble. A slight movement of the ribs is now, for the first time, discernible on each act of respiration. She has this moment drawn up her right knee and stretched out the left leg, semi-flexed the arms, and is *perfectly rigid*, so that her body can be lifted from the bed, by the heel of the extended leg, using the shoulders as a fulcrum. In two minutes this rigidity has passed off, and the body is quite flexible. In five minutes more, she has stretched, by convulsive jerks, her mouth so widely open that the perpendicular measurement is greater than the transverse, and her upper lip is cracked and bleeding with the action. The tongue is retracted to the very back of the fauces, the lower lip at the same time quivering, the upper remaining perfectly stiff.

10.30 *p.m.*—Shortly after last visit, the attack above described passed off, and the patient sprang out of bed upon her feet, and called for her husband. She has since then remained free to use her

limbs, and is now rational, though somewhat dazed. Says that during the foregoing attack she was perfectly conscious, and has described my actions in examining her, lifting her by the leg, &c. States that she found herself "going wrong" some time during the morning. Was thinking about her family and husband when she discovered she had no power over herself, either to speak or to move. *Thought she was dead.* Was conscious of no pain, but felt quite easy, except during the time that her mouth was wide open. At one time the thought occurred to her that she might die from want of sustenance. When asked if she had been subject to hysteric or other fits, says she is "not a woman of that sort." Has sat up in bed and swallowed a pint of milk and eaten a piece of bread.

*10th day of illness, 10·30 a.m.*—Slept tolerably well all night, only twice or thrice asking for a drink. Feels easy, but says that she cannot speak well from sore throat and stiffness of mouth, Salivation copious and thin. Facial eruption rather flat, confluent in places of the size of sixpence, but for the chief part semi-confluent, with rosy erythematous hue of the remaining skin. Pocks on hands and arms, small, globular, and pearly,—with minute well-defined central depressions. Eruption of legs, similar, but less raised. Pulse, 120; mean temperature, 100 degs.; respiration, 25; tranquil.

*9·30 p.m.*—Took food, &c., up to 1 p.m., speaking at the time to the nurse, afterwards fell again into stupor. Her right arm was noticed to be outstretched about 3 p.m., and continued in that position, without change, for four hours. Patient is now half-sensible, and does not think anything has been the matter with her. Pulse, 120, rather feeble; evening temperature, 100·5 degs.; respirations 24, with very little sound, the chest rising gently. Salivation copious, rather forcibly ejected.

*11th day of illness, 4 a.m.*—At about 2·30 a.m. rose from bed, calling out that she was the Holy Ghost, and could save everyone. Was very loud, and greatly disturbed the rest of the patients in that and the adjoining wards.

Is now fixed in a religious fervour, and earnestly asks why I do not become a Catholic, as that, she says, is the only religion by which I can be saved. Says she has been saved by the Holy Ghost, and fervently repeats the following formula:—

(1) "Praise and thanks (2) be to him, the Holy Ghost did this for me."

which she continues for nearly fifteen minutes, at first saying the parts 1 and 2 once, twice, then three times over, concluding each repetition with the last phrase. Gradually her utterance becomes more rapid and less distinct, till finally her voice is inaudible, and the movement of the lips is alone perceptible. During this ecstasy the discharge of saliva has caused some interruption to the above

ejaculation—which the nurse remarking, the patient makes an obscene reply, and immediately resumes her formula.

8 a.m.—Has become filthy in her language, and spits at those about her. Makes hideous faces and utters horrid imprecations. Sings a “jig” tune, and shuffles (as though she would dance) with the feet, which have been strapped down. Refuses all food, &c. As she has required restraint (over the bed-clothes), the temperature cannot be ascertained. Skin warm. Both eyes now open.

Half a glass of brandy, with water, syringed into stomach by nostril.

R. morphia acet gr.  $\frac{1}{4}$ .

Sp: eth : sulph. co : ℥ × ×

Aquæ  $\frac{3}{4}$ ; q q h s donec advt. somnus per nasum injiciendum.

(Beef tea and milk by nostril.)

3.30 p.m.—Has had a sleep of three hours’ duration, and on waking took willingly half a pint of milk. Is now taciturn, but looks sharply round her. Pulse, 128. Pupils rather dilated.

7.30 p.m.—Sleeping.

12th day of illness, 10 a.m.—On my approaching the bed, the patient “makes mouths.” Has been shouting during the night, and still requires restraint. Has scrubbed the cuticle from her cheeks against the pillow. Face raw and bloody. Pulse, 132, feeble. Pupils normal.

3 p.m.—Is asleep. Has had no food except what was injected by nostril.

7 p.m.—Is now awake. Grimaces, and asks to be let loose; says there is nothing the matter with her.

13th day of illness, 9.30 a.m.—Has been quiet all night, and required the morphia mixture only once. Lies at present quite still. Respiration 16, tolerably full. Pulse small, almost imperceptible. Viscid saliva works out at mouth. Patient does not shew any sign of intelligence.

14th day of illness.—Recognises those round her. Complains in a faint, husky voice, of cramps in legs and back. Bowels have been moved by castor oil. Pulse imperceptible at wrist, neck, or temple. As she lies supine, the heart-beat is not to be felt by the hand; with the stethoscope, a faint heart sound (apparently diastolic) is audible, 128 per minute. Has quivering of femoral muscles. Has, since yesterday, taken food when offered to her.

7.30 p.m.—Shortly after swallowing a drink, which she had asked for, without any sound or movement, died.

*Sectio cadaveris.*—24 hours after death

Rigor mortis passed off. Under surface of body hypostatically discoloured. Brain and spinal cord removed entire.

Brain small (not weighed) and soft, having superficial veins

somewhat distended. No appearance of variolous eruption on brain, cord, or membranes.

After removing the membranes, the brain and cord were immersed in a one per cent. solution of chromic acid and water to harden for microscopic examination, the vessel having a piece of gutta percha tissue tightly tied over its mouth. Seven days after the brain was found to be decomposed.

*Remarks.*—The eruption, when first seen, was noted as somewhat corymbose, irregular patches appearing on the arms—described by Mr. Marson as a very fatal form of small-pox. There were also some *petechial vesicles* about the shoulders. These latter have been observed as a very unfavourable and generally mortal sign during the present epidemic. They have been more often met with in adults than in the young, and few persons that have had them, recovered. They are for the most part flat and broad—the edges only appearing above the surface of the surrounding skin, and are of a bluish white hue. Removal of the upper wall of the petechial pock discloses a cell containing sometimes a little fluid, generally none. The interior of the cell is of a pinkish white colour at its circumference. In the centre of its base is a little dark blue prominence, apparently a tuft of loaded venous blood-vessels. The larger these tufts, the broader and more blue the pock, and the more malignant the case. At a later period of the case (10th day), the eruption on the hands and arms was noted as pearly and globular. This condition corresponds to the crystalline small-pox of Mead, Friend, &c., and has proved fatal in every case under my observation. In this form of variola the pocks resemble pearls, are distended by clear fluid, and are very prominent, the central depression being absent, and, in some instances, replaced by a distinct circular elevation, superadded to the apex of the vesicle. The contents may turn milky, but do not suppurate. Dissection shows a dark spot or tuft of blood-vessels, the centre of the base of the pock resembling that of a petechial vesicle. Indeed, the chief difference in the characters of the two forms of eruption is, that one is filled with clear fluid, whilst the other is quite or almost empty. The most frequent seat of petechial vesicles is on the lower extremities, whereas the crystalline pocks have generally been most copious and characteristic on the upper limbs. The petechial vesicle has been frequently observed; the crystalline small-pox has been comparatively rare. The two kinds have been almost equally fatal, whilst death has, in the former, been due to other causes—coma, or some allied condition has invariably preceded the mortal termination of the crystalline smallpox. The case under notice is chiefly interesting from the nature and sequence of the nervous complications. Catalepsy, with waxy mobility, and afterwards rigidity of limbs, and continuance of consciousness, followed by

ecstasy passing into obscene delirium, are, of themselves, of rare occurrence in the same individual; and their appearance during an attack of small-pox is probably unique.

Mr. HAWTHORN considered Mr. Armstrong's case uncommon. After re-vaccination, however, small-pox was not found to be so fatal, though the flat vesicle, or the confluent forms, were often so. Few deaths occurred after vaccination. He had seen two deaths from hemorrhagic small-pox.

Mr. HARDY considered Mr. Armstrong's case a most uncommon one. 300 to 400 cases of small-pox had been treated by him, and he had never met with the same results.

Mr. T. O. WOOD thought hydrate of chloral should be given in those cases of small-pox accompanied with violent delirium. It should be given by the nostril, with a long tube, in a similar manner as Mr. Armstrong had given the nourishment. If Mr. Armstrong had immersed the brain in a solution of spirit for twenty-four hours, then placed it in a solution of spirit and water, equal parts for seven days, he then could have employed the chromic acid solution, and the brain would not have decomposed.

Dr. DENHAM agreed with what Mr. Wood had said in reference to the administration of chloral in these cases of small-pox with delirium. He had found it do good; had found the hemorrhagic form very fatal, the cases being in the prime of life. There was frequently loss of sight from pustules forming on the cornea. Mentioned the case of a man who leaped from a window whilst delirious.

Mr. LUKE ARMSTRONG would like to ask how vaccination was generally done? Was the matter taken from a re-vaccinated subject? He was under the impression a gentleman from Shields had stated so. He had never seen a case of small-pox after *bona fide* vaccination. It is a serious consideration whether the vaccination was primary or secondary.

Dr. HUTCHINSON (Bishop Auckland) had never seen a case of small-pox after primary vaccination.

Dr. WILLIAMSON (South Shields): In London, lymph being scarce, vaccination had been done with the lymph taken from the re-vaccinated. In treating some 350 cases, had not seen a case of small-pox after re-vaccination.

Dr. DENHAM (Shields) explained he spoke of what he had seen. Four children that he had vaccinated had fallen victims to the disease.

Dr. CHARLTON asked if the man who broke through the window recovered?

Dr. BRAMWELL (Shields) had never met with a fatal case of small-pox after vaccination. Related the case of a young man vaccinated in infancy, and re-vaccinated two months before was attacked suddenly, was severely held, had epistaxis. The eruption disappeared in two days, and never came to maturity. The case did well.

Dr. EASTWOOD (Dinsdale Park) thought they were wandering from the subject. He should suggest that some man of experience should give a paper on the subject. Restraint, in his opinion, should be discarded among small-pox patients as well as lunacy. Whilst attending the Fever Hospital he never saw restraint used. The cause appeared want of attendance.

Mr. H. E. ARMSTRONG was Dr. Eastwood's colleague, and thought the patients were often strapped down without the physician's knowledge.

Dr. ELLIS thought the mania of small-pox somewhat analogous to puerperal mania.

Dr. GIBSON would like to recognise a difference between patients suffering from mania, and those suffering from small-pox. He differed from Dr. Eastwood, and thought a given case should require a given treatment.

Dr. EMBLETON thought Dr. Eastwood had extended the digression from the subject. What Mr. Armstrong wished to be brought out was, whether anyone had met with a case of small-pox with catelepsy ; not the treatment of lunacy. Let us stick to the point.

Mr. H. E. ARMSTRONG, in reply, stated he had followed the advice of Beale in preserving the brain. He had employed chloral, and thought it a difficult matter to treat all cases of small-pox without employing restraint in some.

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### CASE OF FÆCAL ACCUMULATION, (NOTWITHSTANDING DAILY EVACUATION) CAUSING VIOLENT NEURALGIA IN THE RIGHT LOIN.

By C. J. GIBB, M.D.

ABOUT a month ago, a gentleman living in the country requested me to visit his wife, a very healthy middle-aged lady, who had been seized suddenly, three days before, with severe pain in the right loin, as she sat at dinner. The pain lasted through the greater part of the night, and left her quite well, as, indeed, she had always

been for years before. It recurred and left again as suddenly on three other occasions during the two succeeding days, and on the last occasion, the night preceding my visit, had continued during the whole night in a very excruciating form, without relief from the hot applications and mustard poultices, which had previously given her relief.

I found her in bed, to all appearance quite well, as the pain had left her a few hours before. There was no constitutional disturbance, her tongue was clean, and pulse 68. The pain had been most acutely felt to the right side of the back bone, at the last rib, and had shot about from there down the lumbar muscles, to the crest of the ilium. It had been of a dull aching, sickening character, with occasional paroxysms of a more acute lancinating kind. The skin was blistered of a scarlet redness by mustard, the mustard having remained upon the skin for some hours without her even feeling its presence, so acute had been the internal pain. Firm pressure detected under the rib a slight tenderness, but in all other respects the region in which the pain had existed was to all appearance quite normal. The urine was pale, and had passed freely, and concluding that the kidney could not, therefore, be the source of the pain, I requested permission to examine the abdomen. There I found slight tympanitic distension, extending from the right iliac bone and groin below, to the umbilicus above, but no heat, or any tenderness or uneasiness on pressure; indeed, she was not aware there was anything unnatural the matter with her in the tympanitic region. Questioned as to the condition of her bowels, she stated they were quite natural, that although she had taken two opening pills every night since her illness commenced, she had only had the one usual daily morning evacuation she had been accustomed to have all her life, indeed, that she never required to take the least medicine, as her bowels always acted after breakfast, and the pills had made no difference. That morning's motion had been removed, but was reported to have been healthy.

In answer to the enquiry of the husband, I said the cause of the pain appeared to me to be obscure; from its intermittent character, it must be a form of neuralgia, as there was no evidence of the least inflammation, and although there was no irregularity of the bowels, there was probably some irritation of the head of the colon, from the tympanitic distension that existed there, and the pain in the lumbar nerves might arise from it. I ordered her to keep in bed, continue the warm poultices, take two more aperient pills, and in the absence of castor oil, secure free evacuations by seidlitz powders, or an enema if necessary.

On the following morning, I found the pain had twice recurred, for two or three hours together; there had been two slight motions, loose, but not watery, and, contrary to order, had been removed.

In other respects, she was the same. She was ordered again to take the pills, and follow them up with castor oil.

The next morning, the fifth of the attack, she had again been exceedingly ill of the pain for many hours. The oil had caused sickness, and repeated vomiting of a bitter yellow bilious fluid had followed. The skin was cold, and the pulse rather weak, but otherwise natural; there was no tenderness of the abdomen, and the slight tympanitic distension remained about the same. She had taken six pills, and used a soap and water enema. The enema had brought away about half-a-pint of loose dark chocolate-looking faecal matter, with a few small hard pieces intermixed, the whole having a most pungent and foul putrid smell. She was ordered a calomel purge, to be followed by repeated enemata, champagne and effervescing drinks, and opium to secure her sleep, if the pain should recur at night.

On the sixth morning, she was, on the whole, some better, the vomiting had only recurred two or three times, the pain twice severely; one grain of opium thrice repeated had secured her some sleep during the night; the tympanitic state of the right iliac region remained, and she had passed nearly a chamber-pot full of the same foul dark knotty motion. She was ordered to repeat the castor oil and enemata, and again to use the opium at night if necessary, all food to continue liquid, and the warm applications to be repeatedly applied.

On the seventh day, she was greatly relieved. There had been no sickness, and although the pain had slightly recurred during the previous afternoon, and again during the night, two grains of opium had given speedy relief. The bowels had been frequently moved, and there was a chamber-pot full of the same dark offensive smelling liquid, but no formed pieces. The tympanitic distension was sensibly less. She was ordered a couple of aloetic pills at night, a seidlitz powder in the morning, and liquid food.

On the eighth day, she was rather weak, but otherwise well. There had been no return of the pain, only some slight uneasiness during the previous afternoon, quickly relieved by a poultice. The tympanitic distension was quite gone, and the watery motion which had followed the seidlitz powder taken in the morning had quite lost all that pungent putrid odour of the preceding days, and was of the ordinary yellow straw colour that ensues after repeated loose motions. She was now told to consider herself well, and gradually to return to her ordinary diet, &c. Some pills of aloes and nux vomica were ordered to be taken every other night for a week or two, and for the next few months to take care to secure free relief from the bowels at least once a week by some gentle aperient medicine.

It is curious in this case the colon should have become furred up

by so large a collection of fæcal matter, as last of all to become putrid, and set up the irritation and pain, without any noticeable change of health or constipation of the bowels. Singular likewise, that such violent relapsing neuralgic pain in the loin should have been the only perceptible symptom for the first few days. No doubt the pain was a colic pain of the colon reflected into the loin ; at any rate, it continued as long as the colon was required to contract on the putrid fæcal mass, and disappeared at once as soon as the straw coloured evacuations proved the colon to have completely emptied itself of the irritant matter.

Mr. HAWTHORN thought no remarks should be made on Dr. Gibb's paper in his absence.

Mr. HARDY and Dr. ELLIS had had similar cases.

Dr. EMBLETON had seen cases of constipation relieved by purgatives, and so curing the accompanying neuralgia.

Dr. BRAMWELL thought the cases not uncommon in parturition. Had met a case in which fæcal accumulation had prevented delivery.

Dr. Page replied : Not only was there neuralgia, but also tympanitis, and the patient was not aware of there being constipation.

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## OBSERVATIONS ON ALBINISM.

By C. S. JEAFFRESON.

THE condition of the human body, which is characterised by the total absence of pigment from the structures in which it is naturally deposited, and which we term Albinism, did not escape the observation of some of the most ancient scientific writers and observers. Thus, we find this peculiar condition mentioned by Pliny and Herodotus. Its occurrence was first called attention to amongst the negro races. This is not surprising, when we consider the striking contrast of color which, in their case, it gives rise to ; and we have adopted the common name of Albino, from the Portuguese, who first employed it to indicate a white Moor. It was commonly imagined that these white Africans formed a distinct race, but the more extended observations of recent years have shown that Albinos are common to all countries and all races. Pickering mentions their being found in Java, Sumatra, the Fijii Islands, the Isthmus of Darien, and many other places. But wherever they are found they conform in all other external appearances except color to the race from which they sprung, and thus,

among the Africans, they have the thick lips and curly hair peculiar to this people. Although Albinos do not constitute a special race of mankind, there can be little question that their condition is liable to descend hereditarily to their offspring. This is especially the case when both parents present the same peculiarity ; and thus, in countries where Albinos are common, families of them may occasionally be seen, the result of marriages between two persons in the same condition. Albino children are sufficiently rare in Europe to render such a combination of circumstances unlikely to occur, and I can find no record of an Albino family amongst any of the more civilised countries of our own quarter of the globe.

Although the Albino state was recognised at such an early period, it did not attract particular attention till the end of the last century, when it was noticed by Buffon. Blumenbach made it the subject of special study, and pointed out its proximate cause, viz., the deficiency of pigment in the rete mucosum of the skin, and other structures in which it is normally present. His observations were followed by some interesting papers by Dr. Buzzi, of Milan, who had the opportunity of dissecting an Albino. He confirmed Blumenbach's views, and further, pointed out that in these subjects the rete mucosum was entirely absent; in this, however, he must have been in error, for it is impossible that the skin could live and grow without the layer of soft and rapidly-increasing cells which constitute this membrane, and which provide for the proper reproduction of those parts of the skin, which are being daily destroyed as the result of the wear and tear of everyday life.

From this date, the peculiar condition of Albinos was looked upon as a disease whose proximate cause was the absence of pigment in the tissues. It is not common to human beings alone, but is found amongst all the different varieties of warm-blooded animals. Familiar instances of it exist amongst rats, mice, rabbits, cats, dogs, and birds of all kinds. Although the proximate cause of Albinism has been fully recognised and dwelt upon, its remote cause is still a matter of conjecture. Buffon supposed that it indicated a tendency of the human body to revert to what he considered the natural color, and Buzzi observed, in two cases, that the mother during the time of conception, had an inordinate desire for milk, which she frequently gratified. Shocks during the period of gestation, peculiarities in the seminal fluid of the parents, and many other conditions, have been alleged as the cause ; but most of these hypotheses have been advanced without sufficient ground-work of observation and facts, so that we are now as far from recognising the real cause of this condition as we were a century ago. We know that pigment first makes its appearance in the structures of the foetus about the sixth or seventh week of conception, where it

may be found in the membranes, which later form the choroid coat of the eye, subsequently it is deposited in the rete mucosum, but it is not fully developed in that membrane till after the sixth month.

The most probable manner in which light may be thrown upon this interesting question, is by the study of the varying conditions which influence the deposition of pigment in the structures of the adult, and in many of the lower animals. As yet our knowledge of the difference of pigmental coloring in the human body amounts to this : That of the five different races each has its peculiar tint, which within a certain extent is liable to slight variations in each race. That in those who are most intensely coloured, variations in degree are uncommon, but total absence of color is not uncommon. That the lighter-colored races present greater features of variation, but within well-marked limits, for instance, there is no record of a European ever being born with the same dark tint as the African.

With regard to our special knowledge of pigment, it may be summed up in the following facts:—That it consists of a fine molecular matter secreted by certain cells called pigment cells, that these are found in various situations notably, the choroid coat of the eye, the rete mucosum of the skin, certain portions of the nerves and their ganglia, and the dura mater, the roots of the hair, and other situations; that in its chemical constitution it consists of melanine, a highly carbonaceous material, closely allied to the fatty compounds. It contains a notable quantity of iron, that in intensity of colour it varies much in the different races of mankind, thus giving rise to one of the most striking and permanent characteristics. That in man, and especially in the fairer races, its development is influenced by certain exterior conditions, chiefly consisting of variations of light, heat, and certain internal conditions, such as the pregnant state, that in some rare cases violent emotion and other nervous influences materially affect its development. We further know that in some forms of tumours it makes its appearance in large quantities, and that in disease of the supra renal capsules, the quantity in the skin becomes considerably augmented. From these data, I think we may with fairness infer that pigment, or some material from which the cells are capable of manufacturing it, circulates with the blood, and the large quantity of iron it contains would lead us to indicate hematin as the probable material. Our knowledge of the processes by which the blood is elaborated is as yet so surrounded with mystery that it is impossible to indicate the part played by the various glands engaged in the process, but it is not improbable that the supra renal capsules may play a prominent part, either actually by secretion of pigment, or by allowing it to accumulate in the blood. This theory will not, however, solve the intricacies of the question,

for the appearance of pigment in the foetus under ordinary circumstances at the age of six or seven weeks, and before any organ can have attained to a sufficiently advanced stage of development to exert any material influence, must make us look for some more antecedent condition.

The case stands thus: we find both father and mother deeply pigmented, and the foetus, which is deriving its support from the blood of the mother, destitute of pigment. What inference can we deduce from this fact? Why this—either that the placental vessels from some disease or other cause, will not permit of the transudation of pigmental materials, or that the cells destined in the foetal structure to take up the materials, are unable to do so. Careful observation may some day illuminate this intricate question. The process of pigmental secretion does not probably differ much from the secretion of fat, and people are dark or fair for the same reason that they are fat or lean: in the one case, the pigment—in the other, the fat-cells, being in excess, although doubtless one secretion is of much greater importance in the economy than the other.

Whether this condition was to be looked upon as a disease or a natural phenomenon giving rise to a variety of the human race, was at one time the subject of active controversy. In coming to a conclusion upon this point every one will be guided by the meaning they place upon the terms natural and morbid. If we look upon the congenital absence of the iris, the lens, or any other organ as a disease, we must take the same view with regard to the absence of pigment, or the cells which secrete it, although it may not be productive of an equal amount of inconvenience. Every circumstance that mars the form or function of the human frame, I consider may be accounted as a disease, and the fact that its reproduction is certain as the result of the connection of two individuals affected with the same peculiarity, does not put it beyond the bounds of such a classification.

When we consider the many structures in which pigment is invariably present, we cannot but consider that its absence must be attended with a certain amount of deterioration in the function of those structures. Thus, it enters to a considerable extent into the formation of nerve, and especially their ganglia, and most unequivocally these organs suffer in the Albino. Although not deficient in intellect, they rarely equal in this respect their more fortunate fellows. In physical strength or nerve powers they are decidedly deficient. One curious point which should not be overlooked, is the constant oscillation of the eyes, and when we consider that the third nerve, which presides over their movements, takes its origin in the locus niger of the crus cerebri (normally the most deeply pigmented portion of the nervous system) this symptom, which is rarely absent, becomes of peculiar interest.

J—— and A——, aged respectively 3 and 5 years, were born and live in Newcastle-upon-Tyne.\* They belong to a family of nine children, eight of whom are alive. The places they occupy in the family are that of fifth and seventh child. Their mother has dark hair and dark brown irides; their father is also a dark man. Their grand-parents, on the mother's side, exhibited no unusual appearances, being both moderately dark on the father's.

Beyond this their pedigree cannot be traced (but there is no reason to suspect Albinism in any of their ancestors.) Both these children possess extremely fair skins, milk white hair, and most peculiar reddish deflexion from the fundus of the eye, &c., characteristic of their condition. They are well-grown children, with good muscular development, and by no means deficient in intelligence. I mention these circumstances, because it is usually supposed that Albinos are in body and mind inferior to ordinary individuals. In temperament, their mother says there is nothing peculiar to them, except, perhaps, that they are more greedy than the other children, and require usually a larger quantity of aliment. It has been stated that Albinos are unusually active during the night, hence they are called nocturnal men, but in the present instance there seemed no such tendency, and the children sleep as well as their fellows. During the day they run about and play like their companions, but their sight is evidently defective, one of them (the younger) always closes one eye in regarding objects. Both of them are troubled by a bright sunshine, and try to avoid it, and they have a constant oscillation of the globes, such as we frequently see in congenital cataract. The elder boy goes to school, and has acquired a knowledge of letters, which enabled me to test accurately his power of vision.

At a distance of 20 feet he can make nothing out of the largest text type; glasses do not improve his vision.

$$\text{For distance.....} V = \frac{10}{CC}.$$

$$\text{For near .....} V = \frac{1}{IV\frac{1}{2}}.$$

He cannot distinctly see any smaller type. When reading, he generally holds the book very close, contracting the eyelids like a person who is myopic.

It is generally supposed that Albinos possess unusual powers of vision in obscure light. I do not find this to be the case with these children, but rather the contrary, for although a strong light dazzles and irritates them, their vision in the deeper shades of darkness was not so acute as my own, and this I verified on several occasions; and one of them expressed of his own accord

\* Mr. Jeaffreson exhibited to the Society the elder of the two Albino brothers.

that he could see infinitely better with the blind up in the room than when it was down.

This total absence of pigment from the structure of the eye gives a most remarkable appearance to the fundus ; it prevents the margins of the disc from being visible, and brings into relief as strongly the vessels of the choroid as those of the retina. Hence the appearance is that of a beautiful white ground intersected by myriads of small vessels ; the actual arteries and veins being only distinguished by their increased size and their directions.

The observations recorded above show, I believe, that the absence of pigment in the choroid interferes less than has previously been supposed with the optical purposes of the eye. These Albinos, in point of fact, see no better in the dark than other persons, and I consider the amblyopia from which they suffer is more the result of deterioration in the nervous centres than owing to any other cause.

Dr. GIBSON thought, in examining Albinos, no ophthalmoscope was required. He did not think Mr. Jeaffreson had touched upon the real cause of the condition ; and further, he believed Albinos were of necessity sterile.

Dr. EASTWOOD had seen two cases ; one became, by his advice, a medical student, and afterwards went into general practice.

Dr. EMBLETON did not consider Albinos necessarily sterile ; had read of a case of partial Albinism where the penis was the seat of the pigmental deficiency, and another in which the hair of the pudenda was similarly affected.

Dr. HUMBLE had seen a family of seven or eight children, all Albinos.

Mr. DODD (Eland Hall) once attended twin brothers and a sister, Albinos. In the second generation the children were Albinos to a certain extent. He did not think they were sterile of necessity.

T. O. WOOD (Dunston Lodge) wished to know if Mr. Jeaffreson considered Albinism a disease or a deformity ? They possess all their faculties, and live to a good old age

Mr. JEAFFRESON replied that he considered Albinism to be an arrest of development. Albino were not of necessity sterile, and there certainly could be nothing in the condition which rendered it imperative they should be so, for Albino animals were, if anything, more prolific than their fellows.

# NORTHUMBERLAND & DURHAM MEDICAL SOCIETY.

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THE third monthly meeting of the Society was held on Thursday evening, December 14th, 1871; Dr. BURNUP, President, in the chair.

The following gentlemen were elected members of the Society:—

Dr. G. H. Savage, Nenthead.

Mr. W. F'Anson, jun., Newcastle.

The following gentleman was proposed for election as a member:—

Dr. Barkus, Gateshead.

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## PATHOLOGICAL TRAY.

Dr. PAGE exhibited an enormous tumour of the femur, for which Dr. Hume had performed amputation of the thigh.

Mr. JEAFFRESON said that he thought many of the valuable and interesting specimens that were brought before the Society did not receive the attention they deserved, many of them were very superficially and inaccurately described, and those of a doubtful nature were rarely investigated. It was the custom in the London Societies to refer specimens of more than usual interest to a special committee, in order that they might be carefully examined and reported upon, and he begged to initiate the same system in this Society by moving a resolution to the effect—"That the valuable specimen of Dr. Hume be referred to a special committee for examination, and that they draw up a report upon it for next meeting."

Dr. DENHAM thought Mr. Jeaffreson's proposition a very good one, and begged to second it.

The resolution was carried.

Mr. JEAFFRESON then proposed that the following members of the Society be placed upon the committee:—Dr. Hume, Dr. Gibb, Dr. Philipson, and Dr. Black.

Dr. PHILIPSON seconded the proposition, but begged to suggest that Mr. Jeaffreson and Dr. Denham be also placed upon the committee

This resolution was also carried.

Mr. RUSSELL thought it unnecessary to have so large a number upon the committee, he thought two members, the owner of the specimen and another, would be sufficient.

Dr. PEART exhibited a specimen of non-cancerous perforation from the trachea to the œsophagus. It occurred in a strumous girl, aged 18 years, who, when younger, was much disfigured by enlarged glands at the side of the neck, but which had since disappeared. Eleven weeks before her death, she complained in the evening of a sudden severe soreness in her throat, and was immediately seized with a suffocative paroxysm, and inability to swallow: the attempt to do this brought on coughing and ejection of the fluid through the nose, &c. On examining the neck externally, nothing abnormal was to be seen or felt, but there was a feeling of soreness in the throat at the level of the top of the sternum. The chest at this time was healthy. An œsophagus bougie passed readily down into the stomach, but caused great uneasiness. With every effort on the part of the patient, food could not be got down in the natural way, so she was supported on large nutritive enemata. Soon localised inflammation set in at the lower and front part of each lung, with pleuritic pain in the same places, and was followed by copious purulent expectoration, which, later on, became intensely fetid. As she lost flesh, an attempt to keep her up was made by injecting a full fluid meal into the stomach every morning, herself swallowing what she could through the day; and after continuing this for a fortnight, she regained the power of swallowing with less difficulty, but this fell off again, and she sank from asthenia, accelerated by the breaking of an abscess at the base of the left lung.

On *post mortem* examination there was found a rounded opening from the trachea into the œsophagus, half-an-inch long, and rather less broad, its upper edge being a little below the level of the cricoid cartilage, the tracheal edge was rounded by the mucous membrane being turned over it, the œsophageal sharp and slightly excavated. No induration whatever existed about it. There were strong localised pleuritic adhesions at the anterior part of the lower lobe of each lung, with a corresponding extent of pneumonic consolidation beneath. On the left side of the lung, in the centre of the hefatised part, was broken down into a ragged cavity containing shreds of lung and fetid pus. On the right side there was simply grey consolidation without disintegration. The heart and other viscera were healthy.

Mr. JEAFFRESON said he had seen one or two cases where suppurating glands in the neck had formed a communication with the trachea, and pressure upon the abscesses would cause a discharge of pus into the trachea which the patient immediately expectorated; he thought that the communication might have been formed in this way.

Dr. EMBLETON thought, too, that the opening might have been formed by the suppuration of a neighbouring gland.

Mr. JEAFFRESON exhibited two large cysts, removed from the lower back part of the neck, and gave the following history of the case:—"The bearer of them was the head keeper of the Marquis of Aylesbury, in Yorkshire; the tumour was as large as a large fist, was supposed to have been produced by the pressure of straps in carrying game bags, cartridge cases, &c. It was soft and elastic, the skin over it unaltered, and had all the appearance of a fatty tumour, and had been taken for such by all the surgeons who had examined it. Just before the operation, on manipulating it rather roughly, a drop of thick fluid was seen to exude at a certain point in the skin, this led to the idea that its nature was not fatty; a trocar was introduced, and gave exit to a quantity of turbid fluid, having a disagreeable smell, and full of cholesterine scales. After the cysts were emptied, they were carefully dissected out, and their form found to be somewhat remarkable. There were two cysts, each the size of a goose's egg, connected by a narrow and quite pervious pedicle, very much resembling one of the old-fashioned double silk purses. The wound was carefully dressed, and healed by the first intention, without a drop of pus having formed and never requiring a second dressing.

Mr. JEAFFRESON exhibited a young lady, suffering from conical cornea, and read the following note:—"A. B., Oct. 24, came before my notice a month ago. Her mother, who accompanied her, answered all my questions, as the girl is of a weak intellect. From a child she appeared never to see well, but it is during the last two or three years that the sight has been most affected. Being unable to read, the acuity of vision cannot be exactly estimated, but she recognises large objects and persons, when close to, without difficulty. When viewed in full, the cornea have the appearance, so often described, as though a tear was hanging upon them, and viewed in profile their conical shape is distinctly visible. The cone of the right eye is larger than that of the left, and its apex has become slightly nebulous, but without ulceration. All the ophthalmoscopic signs are well marked, viz., the small inverted image viewed through the cone, the darkened margin round its base, and the parallax produced by the different refracting surfaces of the cornea. Owing to the intellectual condition of the

patient, operative measures are out of the question, but at night pressure is kept upon the cornea, by means of an accurately adjusted elastic band, and the patient has manifested slight improvement.

Mr. JEAFFRESON exhibited a case of acute necrosis of the whole tibia and the lower third of the fibula. He said that though acute necrosis was common in the small bones, especially the phalanges where it constituted a form of whitlow—cases where it invaded the whole shaft of one of the larger bones were comparatively rare. It generally owed its existence to apparently some very trivial cause, a slight sprain, or a chill—commencing in a joint, or in that part of the bone in close contiguity with the joint, it rapidly invaded the whole bone—cases of this kind at their commencement resemble very much cases of acute rheumatism, and are often admitted as such into the medical wards of our hospitals ; there is the swelling, the severe pain, and the constitutional disturbance common to rheumatism. Pus, however, soon forms, and the patient rapidly passes into a typhoid condition. When Mr. Jeaffreson was called into the present case, he found the whole foot and leg, from the knee downwards, a huge bag of pus ; the patient with a dry black tongue, a feeble and intermittent pulse, almost, in fact, in a moribund condition. Numerous free incisions were made to allow the pus to escape, and about the fourth day there were signs of rallying. Amputation was now had recourse to. The boy made a rapid recovery, being sent into the country three weeks after the operation.

Dr. ARNISON exhibited a specimen of intra-capsular fracture of the neck of the femur, occurring in a woman of 75, a patient of Mr. T. Y. Thompson. She was subject to frequent epileptic fits, and in one fell downstairs upon the left hip, producing fracture. Mr. Thompson diagnosed fracture of the neck—most likely intra-capsular—and, regarding the case as beyond the reach of surgery, left it to itself. In about a fortnight, it assumed a position and appearance so suspicious of dislocation, that Mr. Thompson began to doubt the correctness of his diagnosis, and asked Dr. Arnison to see the case. The patient was laid upon her right side in a semi-unconsciousness from brain disease, and in this position, and when turned upon the back, the appearance presented by the injured limb was exactly that presented by a case of dislocation on the dorsum ilii, and it was only after a careful examination, with the patient under the influence of chloroform, that the original diagnosis was confirmed. In about three weeks afterwards, an epileptic fit terminated her life, and an opportunity was afforded of examining the joint. The position of the limb was found unchanged. Rigor mortis well marked. The head of the bone was found broken off from the neck at the very margin of the acetabulum, the apposition of the fractured surfaces was almost

perfect, and yet, although five or six weeks had elapsed since the receipt of the injury, there was no attempt at repair, nor any evidence of vital action. The case is presented as one of the very few instances where an opportunity is so soon afforded of confirming the diagnosis in a form of fracture where diagnosis is often exceedingly difficult.

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## ON PARACENTESIS THORACIS.

BY G. H. PHILIPSON, M.A., M.D., CANTAB : M.R.C.P., LOND.

AMONG the valuable aids of surgery, in the treatment of disease, is the operation of Paracentesis, and this no less in affections of the pleura than of the other serous cavities. Notwithstanding the division of opinion, respecting the general advisability of Paracentesis Thoracis, unquestionably, it has been sufficiently often completely successful, or it has been productive of such marked relief to distress and suffering, as to fully justify the procedure, even if an ultimate restoration cannot always be prognosticated. It is, however, in cases of empyema, and in inflammatory effusion, acute or chronic in nature, which threaten speedy suffocation, unless relief be afforded, that puncture of the pleura is most appropriate and effective of good.

The operation was had recourse to in the following case of chronic pleuritic effusion, to avert threatening dissolution.

Thomas Baird, a seaman, aged 28, was admitted into the Newcastle Infirmary, under my care, on the 9th of March, 1871. He stated that he had been ill for sixteen weeks, and had suffered from difficulty in breathing, cough, and that at first he had severe and cutting pain in the right side of the chest. He was a strong built man, and was not emaciated. Upon examination, there was marked dulness upon percussion over the whole of the right back, and a total absence of vocal fremitus, vocal resonance, and respiration. In front, there was dulness upon percussion from the right clavicle downwards, to a line two inches below the umbilicus, the lower border of the liver being plainly felt at this line. There was an entire absence of vocal fremitus, vocal resonance, and respiration. The intercostal spaces, on the right side, were distinctly elevated. In deep respiration, the right side remained stationary. The percussion over the left side, front, and back, was clear, and the respiration was slightly harsh. The heart's impulse was seen and felt about half-an-inch below the left nipple, in the nipple line.

The sounds of the heart were normal. The expectoration was small in amount, and consisted of thin frothy mucus. The right side, in the nipple line, measured 21 inches, and the left  $19\frac{1}{2}$  inches.

He was ordered a saline purge and a pill, three times during the day, consisting of three grains of mercurial pill, a quarter of a grain of sub-chloride of mercury, and half a grain of opium.

March 11th.—He was in very great discomfort, and panting for breath. The respirations were 40 in the minute, and the pulse was 90. His lips and cheeks were livid, the skin clammy, and feet cold.

It was decided to afford relief by paracentesis, which was performed by Dr. Page, the senior house surgeon.

A trocar, about the size of a crow quill, was introduced between the sixth and seventh ribs, four inches to the right of the spine. After the escape of fifty ounces of clear straw-coloured serosity, the canula was withdrawn, and the opening was closed with a pad of lint, strapping, and bandage. During the passage of the fluid, the breathing became slower and more tranquil, and the patient more than once expressed his relief and his gratitude.

March 12th.—Without solicitation, the patient expressed the relief he had experienced, and when interrogated, said that the difference in his feeling, before and after the operation, was to him as the difference between "night and day." The respirations were 30 in the minute, and the pulse was 96.

March 15th.—The duskiess of his face was much diminished, and the respirations were 28 in the minute. Over the right scapula slight vocal fremitus was felt, and harsh respiration was heard. The percussion note was comparatively clear from the spine of the scapula to its lower angle. The impulse of the heart was felt about a quarter of an inch within the left nipple. He was ordered ten grains of iodide of potassium in infusion of quassia, three times during the day, and a large blister was applied to the right back. Subsequently, the back was rubbed night and morning, with a lotion composed of per-chloride of mercury and iodine.

Daily, he continued to progress favourably, up to April 9th, when he expectorated a little blood-tinged mucus, complained of shiveriness, pain, and uneasiness in the left mammary region, inability to take his food, and renewed difficulty in breathing. Over the left back, and in the left infra-clavicular region, the respiration was feeble, and accompanied with mucus and sub-mucus rhonchi.

Warm fomentations were assiduously applied over the left chest and carbonate of ammonia, spirit of chloroform, and wine were freely administered; but his breathing became more and more impeded, and he died on April 9th.

At the autopsy, the right pleural cavity contained about three pints of straw-coloured serosity, together with fibrous coagula; and the left pleural cavity, about two ounces of clear serosity. The

right lung was about half the size of the left, condensed, and at its apex, firmly adherent to the chest wall, by old adhesions. The pleura pulmonalis and the pleura corticalis, on the right side, were thickened. The left lung was congested throughout. The heart, liver, and kidneys were healthy.

This case has been recounted with the view of directing attention, not only to the simplicity, painlessness, and efficacy of paracentesis in impending asphyxia from extensive pleuritic effusion, but also to the necessity of not delaying the operation until the lung has become totally unfitted for free expansion. The pathological changes disclosed at the autopsy affording a clear exemplification of the irremediable effects upon the thoracic viscera of a prolonged pressure from fluid effusion.

For the removal of the fluid to be successful, it is necessary that the operation should be performed early. For the endeavour to promote absorption, by the use of medicinal agents, when that process is slow or non-progressive, is often only to lose invaluable time. The operation, also, if performed early, prevents a prolonged illness, and it may be, a contracted chest and inefficient lung.

Mr. BELL said that Dr. Philipson's paper had opened up a question of great interest to the profession. In these cases it was difficult to know what to do for the best; that is, whether a small aperture should be made with a trocar, or whether a free incision should be practised. He had lately had under his care three cases of empyema. In all three he made incisions an inch long, and in one evacuated as much as 12 pints of fluid.

Dr. EMBLETON said that he had often met with cases of this kind in his practice, but he had only seen two in which he had found it necessary to recommend an operation. Tapping the chest was attended with considerable danger, and should only be resorted to when the symptoms were extremely urgent. Patients frequently with large quantities of fluid became in a measure accustomed to the condition, and felt but little dyspnoea. He thought great care should be taken to prevent the admission of air into the pleura.

Mr. RUSSELL thought the aspirator should be used in these cases.

Mr. JEAFFRESON remarked that the question of making a small or a large opening depended very much upon the nature of each individual case. If it was one of simple serous effusion, the opening should be made as small as possible, and great care be taken to exclude air. The aspirator alluded to by Mr. Russell was the best instrument to employ with a view to effecting these conditions. If the case was one of empyema, with severe constitutional symptoms, a free opening should be made to evacuate the pus. In these cases,

the entrance of air into a general cavity of the pleura was often prevented by adhesions surrounding and cutting off the affected portion.

Dr. PHILIPSON, in responding, said that in this case the operation had been performed for impending asphyxia. Dr. Page had performed it with great care, and from the appearances disclosed at the *post mortem* examination, it was clear that no air had entered at the time of the operation. As a rule, paracentesis was more successful in cases of empyema, than in cases of serous effusion into the pleura.

# NORTHUMBERLAND & DURHAM MEDICAL SOCIETY.

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THE fourth monthly meeting of the Northumberland and Durham Medical Society was held on Thursday evening, January 11th, 1872; Dr. BURNUP, President, in the chair.

W. R. Coward, Tyne Dock, was proposed by D. Embleton, M.D., C. S. Jeaffreson, and G. H. Philipson, M.D.; F. W. Newcombe, Gateshead, M.D., by T. Humble, M.D., M. Burnup, M.D., and C. S. Jeaffreson.

Dr. Barkus, of Gateshead, was unanimously elected a member of the Society.

The PRESIDENT wished to know if any of the members had any remarks to make upon the prevalent diseases of the district.

Mr. H. E. ARMSTRONG said the epidemic of small-pox appeared, from the numbers admitted to the Fever Hospital, to be slightly on the wane. The type was, on the whole, milder; yet occasional cases of the malignant form continued to present themselves, there being now two hæmorrhagic cases in hospital. Typhus, after an absence of many months, was again showing itself, and was assuming somewhat of a severe character.

Dr. DENHAM said that in South Shields the disease had almost disappeared, but it was still prevalent about Jarrow and Hebburn, and that too in a somewhat virulent form, two cases in about seven being fatal. He had also noticed that some of these later cases were frequently followed by irritable boils and carbuncles.

Mr. MORDEY DOUGLAS remarked that there had been 844 deaths from small-pox registered in Sunderland during the last year. Now, calculating this mortality at 10 per cent., it gives an average number of 84·40 cases as having existed in the town. The usual treatment he had adopted had been diaphoretics alternately with quinine, with due attention to regulating the action of the bowels. Some 30 or 40 cases had been treated with sulphate of soda, but the number was too small to allow him to come to a conclusion upon the value of the antiseptic plan of treatment.

## PATHOLOGICAL TRAY.

Mr. JEAFFRESON exhibited three eyes which he had recently excised, in consequence of foreign bodies having lodged in their interior. The first was removed from the Duke of Beaufort's head keeper, in consequence of a shot have penetrated it a month ago. Severe irido-choroiditis had been set up, the lens was cataractous, and sympathetic irritation had become developed in the other eye. The second and third cases were both extracted from gentlemen who, in their youth, had been apprenticed to the engineering trade, and showed for how long a period foreign bodies may remain imbedded in the eye, without setting up irritation, direct or sympathetic. In one case the piece of metal had been imbedded fourteen years; in the other, twenty-five. In one, the foreign body was incapsuled in the centre of a mass of organised lymph.

Mr. JEAFFRESON exhibited a knee joint, for disease of which he had found it necessary to perform amputation at the thigh. The patient had suffered for upwards of two years with severe pain in the head of the tibia. Ultimately the joint had become inflamed, suppuration had taken place in it, and large abscesses had formed in the surrounding tissues. The parts, when examined, showed an abscess in the head of the tibia, which had evidently made its way into the joint, setting up destructive inflammation.

Dr. ARNISON exhibited an intestinal calculus, which he had removed from the rectum of a man admitted into the Infirmary in the previous week, from Bellingham. It was about the size and shape of a sheep's kidney, of stony hardness externally, and its composition seemed to be partly biliary, and partly made up of foreign matter, such as fine particles of oat skin, &c. At one side was a gall stone, the size of a large pea, lying loose in a cavity, and looking as if it had formed the nucleus round which the calculus had formed. There was an obscure history of pain such as the passage of a gall stone would produce. The patient had felt it coming down to the anus, and obstructing defæcation, so that he had been compelled to push it out of the way with his finger, as it was too large to pass the sphincter. It was removed with some difficulty by a lithotomy scoop and two fingers passed into the rectum. Dr. Arnison observed that analogous concretions were occasionally met with in the horse, but were very rare in the human subject. He had not previously met with such a case himself, nor could he find any mention of such cases in several books which he had consulted.

Mr. HENRY E. ARMSTRONG showed the heart of a child who had died from cyanosis, at the age of two months. The cause of disease and death was the continued patency of the ductus arteriosus,

which was about the size of a crow quill. The foramen ovale was perfectly closed. The left ventricle was greatly hypertrophied and firmly contracted. The coronary vessels were at the time of making the *post mortem* examination gorged with dark blood.

Mr. ARMSTRONG also exhibited a finger nail with hypertrophied matrix from a case of psoriasis inveterata. The patient, a woman, had been confined to bed for many years; and the specimen had been detached from one of the fingers. The matrix scaly, about an inch and a half long, dirty and roughened, was tipped by the nail, which had become dull and opaque. The disease affected alike the nails of fingers and toes, and covered the almost entire surface of the body with leprous scales.

Dr. PHILIPSON exhibited, for Dr. Ward, of Blyth, an interesting specimen of osteoid cancer resulting in spontaneous fracture. The subject of the disease was a lady, sixty-three years of age, who, on the 12th of November last, was in the act of raising the left leg to get into bed, when the right femur broke in its upper part with an audible snap. At that time there was nothing to show the nature of the disease, but she had had considerable pain in the thigh for some weeks previous, which was thought to be rheumatic. About six weeks after the fracture, however, there was no attempt at union, and the disease became evident by the rapid formation of a globular elastic swelling in the upper part of the thigh, extending, apparently, all round the ham. At the p.m., as was anticipated, the tumour was found to consist of the encephaloid form of cancer.

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## SEQUEL OF A CASE OF EPILEPSY. PARALYSIS— DEATH.

By D. EMBLETON, M.D., AND MR. CARR.

THE case, of which this is the continuation and conclusion, was read before this Society, on the 10th of February, 1870, and printed in the Report of that evening's meeting.

The patient, a gentleman aged 56 years, after having been, as before stated, for sixteen years, the subject of epilepsy, underwent, from February 22nd to March 1st, 1869, a very unusual, severe, and continuous series of epileptic paroxysms, recurring about every three minutes, with intervals at first of perfect, afterwards of incomplete, consciousness, and, lastly, of complete unconsciousness, paroxysms complicated with left hemiplegia and involuntary evacuations of the bowels, constituting a condition from which recovery seemed hopeless.

The paroxysms, however, gradually declining from their acme in frequency and severity, with returning consciousness, disappeared in two days, the paralysis in less than a week, leaving not a trace on the patient's memory of its existence, and he recovered so rapidly that in about a month he was going about the house again, and soon after began to resume his ordinary avocations.

For two years afterwards, he continued in excellent health, showing no sign of epilepsy, paralysis, or other cerebral affection, but transacting his affairs with all the usual mental power, activity, and precision of a man of business whose brain had never been diseased.

On the 20th of February, 1871, almost exactly two years from the commencement of the last attack, after having, in the previous week, as on the last occasion, been subjected to considerable mental irritation and anxiety, he was seized with epileptic convulsions of the same character as before, and recurring again at intervals of about three minutes.

On this occasion also, at first, during the intervals of the fits, consciousness and mental power recurred, but afterwards gradually diminished, and at the end of the second day were completely abolished; the left half of the body also again became entirely paralytic, and more agitated with convulsive movements than the unparalysed half; by and by, the right side also became paralysed, and then the faculties of speech and deglutition were rapidly, first impaired and afterwards lost and the sphincters became relaxed, respiration and circulation continuing.

The frame, in this utterly prostrate and hopeless state, continued to be agitated every now and then with convulsive muscular action, but as respiration and the heart's action flagged, the convulsions became less frequent and less forcible until, at the end of seven days from the commencement of the attack, they ceased, together with life.

The treatment consisted in free evacuations of the bowels, by means of ext. colocynth and black draught, the administration of bromide of potassium in doses of a drachm, together with half drachm doses of the tincture of digitalis, and the same quantity of tincture of ergot: free blistering of the nape and chest; sinapisms to the legs, cold to the head, with castor oil and aloetic enemata. It is worthy of remark that in the interval of two years between the last two attacks, he took daily never less than a drachm, and sometimes a drachm and a half of the bromide of potassium, without the slightest bad effect.

At the *post mortem* examination, forty-two hours after death, present, Mr. Carr, Mr. Chas. Carr, and Dr. Embleton, the head only was opened—the body being quite fresh. The cranium was

thick ; on incising the membranes four or five ounces of bloody serum escaped. The whole periphery of the hemispheres of the cerebrum was uniformly covered with a strikingly close arborescent network of red vessels, and the cerebellum was similarly conditioned. A good many red points were observed in cutting through the white matter of the cerebral hemispheres.

Particular attention was paid to the left frontal convolutions ; in these, however, no disease was found.

The hemispheres, and especially the mesocephalic ganglia corpora striata, optic thalami, corpora quadrigemina, crura cerebri and pons—the cerebellum, with its crura and the medulla oblongata, were carefully explored and sliced, but no hæmorrhage, softening, or other pathological change, beyond the vascularity and serous effusion, already noticed, was observed.

Surprised at the apparent want of sufficient cause to which the symptoms and the death might properly be attributed, we instituted a still more minute search among the convolutions of the hemispheres, particularly those of the right frontal region, and there, at the upper and outer part, corresponding to the middle portion of the lower division of the superior or first frontal convolution, just within, and partially invading the cortical substance, a well marked but indefinitely limited softening or diffuence of the cerebral substance was detected ; in it there was no mixture of blood, but around it was a higher degree of vascularity than elsewhere in the interior, though the exterior of the brain did not betray its presence.

The size of the softened space was about that of a cob-nut, its form irregular. Traversing obliquely, this softened space was what appeared to be, and no doubt was, a delicate colourless puckered cicatrix.

A good deal of time having been consumed in the close examination of the brain, we were obliged hastily to cut out and remove the softened part, which was soon after placed in spirit. Portions of the cicatrix were afterwards examined under the microscope, and were found to consist of minute granular cells lying in a close network of fine clear fibrillæ, like those of a coagulum of blood. The more fluid part consisted of similar cells and debris of cerebral matter, somewhat altered by the action of the spirit. There is no doubt, we thought, that here, although we had almost passed it over, was the pathological evidence—the cause of the two last attacks of the disease and death, that we were in search of—great and universal vascularity of the encephalon, effusion of serum, softening of the white and partially of the grey cerebral tissue at the part pointed out, and there the greatest vascularity, and in the softened region a distinct decolorized cicatrix. No diseased vessels were observed anywhere.

On reviewing this case by the light of the information thus obtained, we see that it is one in which the phenomena of the two last epileptic attacks depended, not upon any vague or imaginary morbid state of the whole or of a part of the encephalon, but on a tangible and demonstrable lesion of a part of the frontal lobe of the right hemisphere.

It is impossible to know exactly what was the precise state of the brain during the sixteen years that preceded the penultimate seizure, when the patient was suffering from numerous minor, ordinary fits, variable as to violence and time of recurrence; but it may be supposed that there had long existed a chronic vascular congestion, localised in the right frontal lobe, and now and then exasperated through mental or intestinal influences.

Why it was that that particular portion of the brain should have suffered at all, appears an insoluble problem.

During the penultimate seizure, the symptoms so exactly resembled those of the last and fatal attack, except as regards its termination, that we cannot help believing that the general state of the brain, then, was one, as closely as could be resembling that seen at the autopsy, that there existed at that time an effusion of blood with rupture of brain tissue to some extent in the right frontal lobe, and that some serum had also been effused at the same part upon the brain or in its ventricles—serum which was gradually reabsorbed.

It is curious to reflect that the patient rallied so rapidly from such injury coming after so long an epilepsy, and more remarkable it is that he should have recovered so completely, and have lived for two years, without any remnant of epilepsy, or of paralysis, either of mental or bodily function, and in the apparent possession of all the brain and limb power which he had previously manifested.

We are insensibly led to think that the energetic but cautious treatment pursued on that occasion had some influence in promoting, at least, his escape from death.

Mental "worry," and dyspepsia, perhaps induced by it, seem to have been distinct exciting causes of all these epileptic fits, and preceded, in manifestly greater force than on the previous occasions, the two last attacks. Their effect on the last occasion was unmistakable, the previously injured and still susceptible part became excited and inflamed, and then broke down into diffidence and purulence, the inflamed condition spreading over the whole brain, and causing effusion of serum and then compression.

The paralysis of the left half of the body was owing to the lesion in the right frontal lobe, either directly, or through its influence on the other parts in the direction of the medulla oblongata, the double paralysis and extinction of the senses, &c., to the compression of the brain.

It appears noticeable and in accordance with the periodic nature of epilepsy, that the last attack occurred almost exactly two years after the previous one ; but it must be stated in explanation that no mental or other irritation had occurred during that interval, whilst on the occasion of both attacks important and injurious changes in the patient's affairs were for some days imminent, changes he had to oppose and endeavour to counteract with all his might. It was thus that his epileptic attacks appeared when they did (soon after the February term), and that they were periodic rather by force of circumstances than by the nature of the disease.

It is important also to notice, in conclusion, the negative fact that, although there was a grave lesion within the right frontal lobe during two years, and on two occasions left hemiplegia, speech was unimpaired, and was only abolished when the paralysis became general and insensibility supervened.

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## THE OPHTHALMOSCOPE IN MEDICINE.

By MR. C. S. JEAFFRESON.

MY reason for selecting the revelations that the ophthalmoscope has made in medicine for my present thesis, in preference to its more special bearings in ophthalmic surgery, is that I am desirous of interesting the members of this society in my paper, and engaged as most of them are in general practices, where, as a rule, medical cases are common, ophthalmic cases comparatively rare, I entertain hopes that I may stir up a spirit of enquiry and research, and that some may be induced to follow up these investigations, which are at present but in their infancy. It is a field in which much has yet to be done, and is one full of interest, for in it we may glean new facts in physiology, pathology, and medicine, and it is a common ground upon which the surgeon and physician can meet to discuss with mutual advantage. Hitherto, I fear we have left our Continental brethren too much to act as pioneers in many of the more recent advances that have been made in surgical and medical science. We English are apt to be somewhat too practical in our tendencies, and are rather slow to take up a study without we see its immediate use. This is no doubt due to defects in our educational system, which are not sufficiently abstractedly scientific, and is much to be regretted. In this particular subject, however, we have no reason to blush, for though the students of ophthalmic medicine are few in number their productions have been brilliant, and they have earned for themselves a wide world reputation.

Once the mechanical difficulty of this study overcome, your industry

will be amply repaid, for here nature has given us a transparent field, in which we can observe all the changes of inflammation and its allied conditions, which before were, so to speak, carried on underground, and beyond the reach of the eye. But apart from the natural charm of the study, the matter is one of absolute necessity, especially to those who would consider themselves entitled to rank among the heads of the profession, for henceforth the record of all cases of cerebral disease will be considered miserably incomplete, without a record of its intra-ocular signs.

And, now, one word about the instrument that should be employed, for their number is getting quite puzzling. The simpler the better for manipulating, and the smaller the better for carrying about, for those who would make this subject a study should never be without one in their pockets, and should neglect no opportunity of examining the fundus, healthy or diseased. Mr. Carter, some time ago, pointed out that the mirrors in general use are unnecessarily large, and that the aperture in the centre is much too wide, offering a considerable impediment to the examination through the undilated pupil. He thinks that an inch in diameter is quite sufficient for the mirror, and that it should have a very small central aperture. An instrument of these dimensions is now in general use among ophthalmic surgeons.

Fixed ophthalmoscopes are bad for daily use; like large and powerful microscopes, they should only be kept for verifying and analysing special cases, or for making drawings. The best, but also the most expensive, is the reflecting ophthalmoscope of Burke, which I showed to the society some time back. The beginner, in practising, should use atropine, and his instructor should make him give a description of what he sees, as some people, fearful of displaying their ignorance, display great fertility of the imagination in describing the fundus. A gentleman consulted me a year since whose sight was considerably dimmed; he told me he had consulted several authorities in the neighbourhood, and their discrepancies of opinion had somewhat startled him. One, whose opinion he seemed most to rely upon, had told him that the back of his eye was covered with large white blotches, the result of syphilitic disease. As his eyes were still under the influence of atropine from this last gentleman's examination, I took him at once into my ophthalmoscopic chamber. To my astonishment, I found a fundus perfectly normal, with the exception of a slight blanching of the disc, suggestive of incipient atrophy. My patient was surprised at the discrepancy of our statements, and was not quite satisfied until my opinion was confirmed by an eminent specialist in London. In this case, I have little doubt that the inventive faculty of the surgeon had led him to see syphilitic effusion upon the retina, in order that the ocular should correspond with the constitutional symptoms.

If the student has no opportunity of receiving instruction, he may gain much useful information and practice by the use of Perrin's artificial eye. A description of this useful instrument may be found in some lectures on ophthalmic surgery, lately published in the *Lancet*, by Mr. Soelberg Wells. In medical cases, atropine should never be used, as the sight is generally but little affected in these cases, and the disturbance it produces tends to make the patient believe that he has been permanently injured.

With quite young children it is often extremely difficult to get a good view of the disc, and on more than one occasion, where the diagnosis has been one of vital importance, as in cases of intra-ocular causes, I have found it necessary to administer chloroform.

Presuming that the general anatomy of the fundus of the eye is familiar to all, I shall only touch upon a few points of more than usual importance in connection with this subject. The disc, as the entrance of the optic nerve into the eye-ball, is the centre of the principal changes which are the subject of investigation by the medical ophthalmologist. At this point, the nerve tubes are deprived of their neurilemma, and it is the termination of these sheaths, together with a quantity of connective tissue, which blocks up the sclerotic foramen, which constitutes the disc. Its centre is pierced by the central artery entering the eye and the veins leaving it. Now, it had often been observed that the disc had all the appearances of hyperœmia and congestion, without the central vessels presenting the slightest appearance of change, and *vice versa* it had been remarked that the central artery and vein showed symptoms of distension without the disc being in any way altered; hence arose the idea that there was no interdependence between their blood supply. The careful researches and dissections of Galezowski and Bouchut in France, and of Clifford Allbutt in England, have established the soundness of this idea, and they have incontestably shown that the vascularity of the disc is part of the general vascularity of the brain, and is quite independent of the central artery, which is a branch of the ophthalmic. The importance of this fact can scarcely be overrated, for by it we are enabled to understand how, by looking at the disc, we can form an accurate opinion as to the general vascular condition of the brain and its membranes, and we can further understand how structural derangements, inflammatory or otherwise, of the brain or membrane, commencing at some distance gradually reveal themselves at the optic disc.

We must not omit to mention that the optic nerve is enclosed in a double sheath, the external being continuous on one hand with the sclerotic, on the other with the dura mater. The internal is again a direct prolongation of the pia-mater, and it is asserted by some anatomist that the space between is part of the common

intermeningitic cavity, and is liable to be distended by an increase of fluid in that situation. The anatomical position of the nerves, too, must not be forgotten, in close proximity to parts which are most prone to disturbance in encephalic disease, and liable to pressure from distension of the cavernous sinuses.

Whilst speaking of the anatomical disposition of the disc, we must not omit calling attention to the peculiar relations which the nerve bears to the sclerotic foramen or space through which it enters the eye. This aperture being smaller than the diameter of the nerve, the latter at its entrance is somewhat contracted, and in this way the sclerotic fits tightly round it like a collar. It is not difficult to see, under these circumstances, how, when any swelling occurs in connection with the nerve, the unyielding sclerotic will strangulate it at this spot, giving rise to œdema congestion and even hæmorrhage, which is occasionally found to be the case in actual practice.

In examining the fundus, we should habituate ourselves to following a regular routine, and then no point is liable to be overlooked. 1st. (although this is not a point of much medical interest), we should determine whether the refraction of the eye is normal. We must then determine the colour, shape, outline of the disc, the presence or absence of its small nutritive vessels. Our attention must be then turned to the retinal vessels. Are they increased or diminished in size? Are the arteries distinguishable from the veins? Is there spontaneous pulsation in the veins—is it readily produced by slight pressure? Having satisfied ourselves upon these heads, if necessary, we must examine the field of vision, but any work upon ophthalmic surgery will tell you how to do this.

I will now enumerate the different pathological conditions visible by the ophthalmoscope which indicate intracranial and other disease, and afterwards I will treat of them seriatim, connecting them, as far as this can be done, with the different disorders which give rise to them. First in order come different degrees of hyperœmia and anœmia. These, in their lighter shades, it requires great practice to recognise. 2nd. We have the *stauungs papilla*, or congestive papilla of Graefe. 3rd. *Neuro-retinitis*. 4th. *Atrophy*, in its different stages. Hyperœmia of the disc may, as I have before stated, affect the central vessels or not, as the case may be. Its lighter shades may not be easy to diagnose unless the observer is previously acquainted with the condition of the discs in the person under observation; for, as with the complexion of the face, so with the hue of the disc, we meet with many different shades within a range of health. Its greater degrees are easily recognised, for then the disc has lost its pinkish hue, and is indistinguishable (but for the direction of the vessels) from the remainder of the

fundus. After what I have said about the anatomical relations of the disc, you will fully recognise that this intensely hyperœmic condition indicates a similar condition of the cerebral vessels. It may be transitory, or it may only mark the early stage of some further change; thus it not unfrequently precedes the condition of the papilla which I shall treat of in my next section (the congestion papilla), or it may precede a neuritis, or some abnormal process. The arteries rarely undergo much enlargement even in the most active conditions of hyperœmia, but the veins become engorged and tortuous. Sometimes spontaneous pulsation may be seen in them, and in most cases this may be produced by putting a little pressure upon the eyeball. In most diseases attended with an increased afflux of blood to the brain this condition of the fundus is revealed, as in mania, epilepsy, etc.

With regard to the latter complaint, the ophthalmoscope has tended to substantiate a theory which for long was held, that the opposite conditions of hyperœmia and anœmia of the brain, were both capable of producing epileptic convulsions. Dr. Hughlings Jackson, and Dr. Clifford Allbutt have both had many opportunities of examining the fundus during the convulsive attack, and they have found that it is characterised by intense congestion or anœmia. There is a peculiarity in the central vessels of epileptics which is too worthy of notice. I allude to the constant engorged condition of the central veins. So marked is this in all cases which I have seen, that I believe that, with due care, it would be possible to pick out an epileptic from other patients, by the examination of the fundus alone.

The condition of anœmia is less difficult to recognise. As a rule, it is connected with a generally anœmic condition of the body. By an inexperienced person the anœmic disc might be mistaken for an incipient atrophy. There are, however, several points which will enable us to differentiate it. In the first place, the anœmic disc never loses but a certain part of its colour. 2nd, The distinction between veins and arteries is never lost. 3rd, Both eyes are usually in an exactly similar condition. 4th, If the sight is interfered with, there is a general dimness of the whole field. Now, in incipient atrophy, all these points are just reversed. 1st. The pallor is white and staring. 2nd, The distinction between the vessels is lost. 3rd, The two discs are rarely in exactly the same condition; and 4th, Some portion of the field is usually more affected than the rest. A test more crucial than all these yet remains, and one I have not as yet seen mentioned in books. If a small quantity of snuff or other irritant be given to the patient, the action of sneezing produces a temporary fulness of the cerebral vessels, and in pure anœmia, the hue of the disc is in a measure restored. A prolonged ophthalmoscopic examination will sometimes effect the

same purpose, and produce a congestion of the disc which is impossible in the wasted condition of atrophy. Amœmia of the discs is sometimes found in cases of aortic regurgitation, and as the result of nervous disorders, the contraction of the vessels may be so complete as to induce a temporary blindness, which has been termed epilepsy of the retina.

Should the condition of hypercœmia we have before described not subside in a short period, we get what is called the ischæmic disc, congestion papilla, or *stauungs papilla* of Von Graefe. The disc looks, and is, œdematous and swollen, its margin loses its definition, and has a woolly appearance. The vessels are engorged and tortuous, the arteries being indistinguishable from the veins, and the swelling gives them an appearance of entering the disc at some distance from its centre. The colour of the disc is also altered considerably ; it loses its pinkish hue, and assumes a reddish brown shade.

It is most important that this ischœmic disc should be distinguished from a descending neuritis, although until a recent period, they have been generally confused, and by many ophthalmologists are so at the present time. The congestion papilla is the result of the mechanical action of the unyielding sclerotic ring upon the congested blood vessels. This acts like a multiplier, and makes what in other situations would be a moderate amount of congestion, a matter of serious import in the optic papilla. From what has been said, you will infer that the ischæmic disc is most usually found in cases where the general tension of the intracranial cavity is increased, thus we find it in meningitis in cases of cerebral tumour and hydrocephalus. What strikes one as remarkable with these well marked changes in the appearance of the papilla, is that the sight is rarely much, and sometimes not at all, affected. I have, on several occasions, found this condition without the patients being the slightest cognisant of any alteration of the sight, and in this point it differs from neuritis, which is rarely present without vision being affected to some considerable extent. To see the swelling brought out into striking relief, it is necessary to use a binocular instrument.

Neuro-retinitis is a sign of much greater import or significance than the condition of ischæmia. The latter, as I before explained, is in great measure due to the mechanical action of the sclerotic ring, it may result from causes which may not be permanent, and once the engorgement relieved, the state of ischæmia may pass off, leaving the disc uninjured and the sight unimpaired. This not unfrequently is seen to happen in cases of chronic hydrocephalus, where the tension of the intracranial curve is liable to periodical variations, an ischæmic condition appearing with each exacerbation, and passing off as it abates. Now, with neuro-retinitis,

or neuritis descendens, it is otherwise. The alterations are inflammatory; they have travelled from the brain along the course of the optic nerve, of necessity affecting and degrading the structure of that nerve in their passage, retrograde changes which are so liable to occur in nervous structures, rapidly take place, and partial or total atrophy rapidly ensues.

I hope you will now see how important it is to differentiate the two conditions of ischæmia and neuro-retinitis, and to appreciate the difference in danger which attends each form. The ischæmic papilla, when unrelieved, itself becomes complicated by a certain amount of retinitis, the result of local irritation, and may end in complete atrophy, with blindness, but this is undoubtedly a rare consequence.

The appearance presented by neuro-retinitis are these: the margin of the disc in its entirety, or at some portion, is lost, and the disc has a blurred, somewhat woolly appearance, like glass that has been breathed upon. There is no pimple-like swelling, as in ischæmia, and the colour is usually of a greyish tint, with the faintest dash of red; the vessels may be slightly engorged, but as a rule are not much altered, unless it is that their outline is somewhat dimmed by the inflammatory effusions, and occasionally by their side they are accompanied by faint white streaks for some little distance from the discs.

The most wordy and lengthy description cannot, however, equal in value a single glance at these conditions during life; and in default of real patients, the beautiful and faithful drawings of Liebrich\* will serve every useful purpose.

There is another form of neuritis which has been distinguished as chronic neuritis, and by Dr. Clifford Allbutt called red softening, which is met with in cases of general paralysis, paralysis agitans, and locomotor ataxy. The appearances it presents are more those of chronic congestion; the disc has a uniform dull red tint; the inflammatory effusions are but slight; they give an appearance of fine stippling to the papilla.

Now, what are the intracranial conditions which give rise to optic neuritis. Putting them in the order in which they perhaps most frequently occur, we have meningitis, encephalitis, tumour, chronic abscess, and for chronic neuritis, different forms of sclerosis and softening. Putting, then, all intraocular and orbital causes of this condition out of the question, may we safely infer, in a patient suffering from neuritis, that we have to deal with one of the above conditions? I think I may safely say we may, and hence optic neuritis occurring in a person exhibiting other signs of intracranial disease, becomes a symptom of grave importance, and indicates serious results. I may, perhaps,

\* Liebrich's Atlas of Ophthalmology.

illustrate this best by a case. A man came to consult me for severe pain in the head, general feeling of malaise and indisposition, restlessness at night, and other symptoms, which his own medical attendant had attributed to indigestion and liver disorder, for this man was not sufficiently indisposed to keep from work. I might have been led to form the same opinion, but on examination I found the patient suffering from well-marked optic neuritis. My diagnosis was then clear, undoubtedly the case was one of indicating a serious form of intracranial disease, most probably meningitis, and accordingly I gave my opinion. The patient seemed doubtful and disinclined to believe. Within a fortnight the chronic symptoms became acute, and in three weeks this man died, with all the symptoms of acute meningitis. Now, gentlemen, cases of this kind, though not infrequent amongst grown up persons, are common in children, and it is in helping us to separate cases of insidious meningitis from the less fatal forms of disease that the ophthalmoscope renders us an eminent service.

We come now to speak about atrophy of the discs, and from what I have before said, you will probably have gathered this may appear in two different forms. First, that which follows an ischæmia or an optic neuritis, and is called consecutive atrophy ; and, secondly, that which originates in the disc itself without any previous disturbance, and is called primary. The manner in which the first form is brought about is as follows :—After a variable length of time the inflammatory effusion begins gradually to clear up, and the vessels to shrink in size, especially the small nutritive vessels of the disc which eventually entirely disappear ; finally, at one side or other the papilla appears blanched and white, and this gradually spreads till the whole disc is invaded and appears of a pearly paper-white colour. In very extreme cases the central vessels may themselves entirely disappear. Such a case as this is represented in Liebrich's Atlas, but was probably not the result of intracranial disease. Primary atrophy, as I before mentioned when speaking of the different hypercæmia and anæmia conditions of the disc, is much more difficult to recognise in its early stages. It may invade the whole disc at once, or may commence at its edges or on one side. In it there is a gradual paling of the disc and dwindling of the vessels, until its final stage it presents characters almost identical with the consecutive form. There is, generally, however this difference—that, whereas, in primary atrophy the disc always retains a clear defined circular margin ; in consecutive atrophy the edge is broken and irregular, and not unfrequently there exist a certain amount of excavation. Primary atrophy may have for its origin several causes ; it may depend upon the severance of the optic nerve from the centres of vision by the pressure of a tumour ; it may again result from neuritis of

some portion of the optic tract itself, which neuritis though not spreading to the disc itself may induce an atrophic condition of it, the different forms of sclerosis may produce; and, finally, it may arise in atheromatous subjects from defective nutrition. It is astonishing how in these cases the visual power varies; sometimes with apparently little atrophy the sight may be seriously impaired; in others the disc may be blanched and staring, and a considerable amount of vision remain. In some of the latter cases, Dr. Allbutt has had opportunities of examining microscopically, and he has found that a few healthy nerve fibres remained. This to a certain extent will explain the anomaly, for a few perfect fibres will conduct a much clearer impression than a larger number more or less seriously affected.

Let me now, then, briefly recapitulate some of the chief points of my paper. First, I have shown that the disc in its vascular supply has a close connection with the brain and its membranes. Second, that certain conditions of the disc, ischæmia, neuro-retinitis, and atrophy are indicative of intracranial disease; that ischæmia is a condition of the papilla most frequently induced by increase of intracranial tension, and as such, though a good symptom, may occasionally disappear and leave the disc in its normal state; that neuro-retinitis occurring with symptoms of encephalic disease is a sign of the gravest importance, and indicates, as a rule, fatal disease; that in disease of slow progress, or of a chronic nature, the condition of ischæmia and neuro-retinitis usually terminate in atrophy, or something of the optic nerve, but that this condition also frequently is found without them as a result of degeneration of the nervous centre of some part of the optic tracts.

Having once received the information of the existence of intracranial tumour, we must not expect much more from the ophthalmoscope. Its locality, size, and structure are matters of inference more from general symptoms. Dr. Clifford Allbutt, in his work upon the ophthalmoscope, has attempted a classification of cerebral tumours and their symptoms, and to those interested in this question, I should advise a careful perusal of this work. He has come to the following broad conclusions:—That tumours of the convex surface of the brain more rarely give rise to ocular symptoms than do those of the base. That tumours of the posterior lobe give rise to ocular symptoms less frequently than the middle, and the middle less frequently than the anterior. Bouchut, who amongst the French school has made this subject a special study, declares that he can diagnose in which hemisphere a tumour exists by carefully examining the relative intensity of the signs in each eye. The tumours being on the side on which the ocular symptoms are most clearly developed, there may be something in this, provided the case comes before the observation at a suffi-

ciently early stage, but not unfrequently no difference exists upon which we could safely base a conclusion.

At the commencement of this paper, I spoke of the frequency with which meningitis is attended with intra-ocular symptoms. I wish now to point out some of the practical bearings of this fact. In the first place, it is from the frequency with which meningitis affects the base of the skull, and consequently the parts surrounding the optic nerves and their tracts, that intra-ocular signs of it become so common; and hence, too, its frequent absence in cases of traumatic meningitis, which, as a rule, confine themselves to the convex surfaces of the hemispheres. All idiopathic forms of meningitis have a preference for the base of the skull, and usually commence there; hence, even its earliest stages can almost invariably be diagnosed by the mirror. I need not point out how important, then, is the use of this instrument in cases of suspected meningitis in children, and how frequently it will reveal the lurking enemy (ready at any moment to break loose and devour its prey) of which the general symptoms may give but little or no evidence. In those obstinate cases of caries of the temporal bone following the exanthemata it will frequently put us on our guard and warn us of an incipient and yet perhaps manageable meningitis. Or, in the event of delirium, arising in the course of fever and other maladies, it will help us in coming to an almost certain conclusion—a conclusion upon which the issue of the case may turn—as to whether the delirium is due to a functional derangement or an inflammation of the cerebral membranes. In the same way it may prove invaluable to the psychological physician in the various forms of insanity which come before him.

You will all see the important bearings that the decisions the ophthalmoscope enables us to come to, will have upon the treatment of any given case. I will illustrate this by a quotation from the writing of a celebrated American physician, Dr. Vance, in the N. Y. Medical Journal. It bears upon the question of the anæmic and hyperæmic form of epilepsy I mentioned at the commencement of my paper. He says, “For the last two years I have been in the habit of mentally arranging my epileptic patients according to the intra-ocular symptoms observable with the ophthalmoscope. Two well-marked groups can thus be formed; one group characterised by vascular fullness, the other by anæmia of the retina. It is well known that either hypercæmia or anæmia of the retina is competent to give rise to epileptic paroxysms, and I think that bromide of potass is of the greatest service in the former condition, and contra-indicated in the latter. In all cases of congestion, a good effect is at once apparent upon the administration of the bromide, and in those cases in which the benefit was permanent the circulation of the eye was brought into such a state as to indicate a natural

state. Furthermore, as long as this natural condition is maintained, the fits do not occur; but when the drug is continued until an undue effect is produced, indicated by an anæmia of the intra-ocular structures, the convulsions return generally with augmented violence. The effect of a series of convulsions upon the intra-ocular circulation seemed to produce an increase in the size and tortuosity of the retinal veins. This might be supposed to indicate cerebral congestion, but in one case, as the treatment progressed, anæmia, denoted by a diminution in the size of both arteries and veins, became more and more apparent, but upon the occurrence of several paroxysms, the veins assumed a dilated and tortuous appearance; the arteries, however, remained unusually small. The changed shape of the veins was plainly due to the commotion excited by the violence of an epileptic paroxysm. I do not think that every case of epilepsy can be cured by attention to the state of the vessels, and treatment directed accordingly; but I am fully convinced that the most unpromising cases may be relieved, and the patient's condition very much mitigated by systematic and careful attention."

Besides those changes in the fundus of the eye which are indicative of encephalic disease, there are other well-marked changes which occur as the result of certain blood disorders, and as a sequence of prolonged toxic influences. Graefe, Desmarres, and Liebrich were the first to point out that a certain form of retinitis occurred in frequent conjunction with albumenuria, and, thanks to their labours, its progress and distinctive character have been carefully delineated. Shortly after Liebrich discovered a peculiar form of retinitis which attends cases of leucocythemia his investigations were supplemented by the labours of Becker, Leber, and Samich, and leukemic retinitis is now a recognised disease. Syphilis, that cursed and subtle poison which still eludes the grasp of the chemist and pathologist, frequently attacks the retina. Next, we have alcohol and tobacco, pleasant vices which, taken in moderation, help to smooth the sharp edges of the stones in the road of life.

Lastly, come certain mineral poisons; and amongst these lead has received the greatest share of attention.

In the course of a short paper, I can scarcely be expected to enter into the details of this programme, for the literature of ophthalmic medicine and surgery has extended with such prodigious rapidity that much has been written upon all these headings, but I will endeavour to give what has really been established with regard to them.

Few medical men are without cases of albumenuria amongst their patients, and in a large majority of cases ophthalmoscopic signs are to be found; hence opportunities of studying this disease have been great, and its history is well known. Retinitis in connection with

albumenuria usually attacks both eyes, though not in equal degrees. So insidious is the renal affection, that optic signs may be the first to attract attention, I have observed this myself on several occasions, patients having presented themselves on account of dimness of sight, albumenuric retinitis has been discovered and verified by the examination of the urine. We may consider it as divided into three stages, the period of commencement, the period of its height, and the period of its decay. The period of its commencement is not frequently observed except in acute cases where we have been cognizant of the approach of albumenuria, as in cases of scarlatina, typhoid, pregnancy, etc., it commences with an hypercæmic condition of the disc, with slightly gorged veins; next, a slight bluish grey oedema seems to spread over the disc, slightly masking its outline and dimming the vessels. This condition has nothing particularly characteristic about it. I have frequently observed it in cases of albumenuria following scarlatina, and it may pass off, and in these cases usually does so, leaving the fundus perfectly healthy. But where changes of a more chronic nature are going on in the kidney, the affection passes into its second stage, slight hæmorrhages take place in the course of the vessels surrounding the disc, and white patches become developed in different portions of the retina, together with peculiar glistening white bodies, the size of a millet seed, these are chiefly aggregated round the region of the yellow spot, and have the appearance of being splashed in with a brush. These changes are produced by inflammatory exudations, which have a tendency to undergo rapid fatty degeneration, and by sclerosis of the nerve fibres. The extent of deterioration of vision will entirely depend upon the amount of the true nervous element involved in these changes. The connective tissue element in the retina is the principal seat of the disease, and the fundus may appear seriously disorganized without vision suffering to any great extent. Sometimes in these cases loss of vision comes on with remarkable suddenness, and if it bear no relation to the amount of damage we may infer that it is due to uræmic poisoning. Uræmic amaurosis in cases of acute disease may occur before intra-ocular signs have had time to develop themselves. A well-marked case of this kind came before me a short time since. A child, aged 14, was brought to me suffering from all the symptoms of acute nephritis. I remarked that her vision was seriously impaired, without any change being visible in the fundus. The next day the child could not recognise large objects, the two following she was absolutely blind, on the third was seized with uræmic convulsions and died; on the last day there was slight congestion of the pupilla, but apart from that no ophthalmoscopic signs existed. As a rule retinitis albumenurica is very slow and chronic in its progress, resolution to a certain extent may take place, or it more usually

results in atrophy. If the former event occur the exudations become absorbed, the choroid shows various alterations in the pigment of the epithelium and stroma at the different places where it had been pressed upon, and a certain amount of irreparable damage is always done.

Cases of splenic lenkœmia are not very common in England, hence opportunities of studying lenkœmic retinitis are not common. I have only once seen this condition, which has been described accurately by Becker. The fundus has a peculiar orange tint, and the vessels, though gorged, have a rose coloured hue, the outline of the disc is dimmed by effusion. By the side of the vessels frequently pale streaks exist, which are supposed to be the result of a transudation of white blood corpuscles. Hæmorrhage is not so common as in retinitis albumenurica, but when it does occur the effusions are paler and appear of a muddy brown tint.

Syphilis attacks the retina under two distinct forms, the concurrent retinitis described by Graefe, which is rare, and the ordinary form of retinitis. In the former disease the changes are almost entirely confined to the yellow spot, which becomes dimmed by slight serous effusion, the first attack usually gets well, and there may be eight, nine, or ten attacks before serious mischief is developed.

The chief characteristics of syphilitic retinitis is the amount of effusion which takes place, and the extreme rarity of hæmorrhage, the tendency it has to spread to other textures and its amenability to treatment.

An active controversy carried over many years has not sufficed as yet to decide the absolute weight to be attached to tobacco as a factor in the production of amaurosis. At the present time I believe the majority of ophthalmoscopists are inclined to accept tobacco amaurosis as an established fact, and indeed it would be difficult to do otherwise after the mass of evidence with which it has been supported by such careful observers as Hutchinson, Wordsworth, Sichel, and others. On the other hand, the singular freedom from amaurosis exhibited by the inhabitants of some of the Eastern parts of Europe, where tobacco is consumed in enormous quantities, a fact which has been pointed out by Mr. Carter, militates somewhat against the theory, and rather brings one to suspect that the alcohol which is consumed in England, as a general accompaniment to the tobacco, plays no inconsiderable part in the production of the disease. I not unfrequently come across what are termed cases of tobacco amaurosis, but I have never met with one in which the symptoms could be freed from a complication of drink. The amblyopia of drunkards was a recognised fact in the preophthalmoscopic periods ; it may, like the amblyopia in renal disease, be due to two causes, the direct circulation of large quantities of alcohol

after a debauch, and the organic changes usually of an atrophic kind, induced by the chronic effects of alcohol. The latter are permanent, the former, which usually supplement the last, generally pass off in the course of a few days. I regret to say this form of blindness this "amblyopia potatorum" is far from being uncommon in this northern metropolis. It does not frequently come before professional notice, because the subjects of it have all their sensibilities more or less deadened, and as a rule are soon carried off by other maladies, to which their condition makes them specially liable. In the early stages of this condition the fundus has a deeply congested appearance, and after a debauch there may be a slightly commencing ischæmia from cerebral congestion, in a longer or shorter period, the disc commences to blanch at its edges, this gradually spreads till the whole disc assumes a white staring appearance, and total blindness results. The vessels rarely shrink to the same extent as in other forms of atrophy, and it is rare for the atrophy to arrive at its greatest stage from the result of drink alone.

The neuritis which results from lead-poisoning has only recently been brought before the notice of the profession. My connection with some of the largest lead works upon the Tyne has given me great opportunities of pursuing this subject which is full of interest, and upon which I am preparing a special article. The chief peculiarities of plumbic neuritis is the small amount of exudation which is thrown out, and the feebleness of the inflammatory process generally; it has a special predilection for women. It is not more frequent in those who have been long subjected to the poisonous effects of lead, but on the contrary selects the recent comers, and in these occasionally it comes on with a rapidity which the French would call "foudroyante." On one occasion blindness occurred in less than twelve hours.

And now, gentlemen, I must conclude, not, I hope, without having shown, not only the high interest that attaches to these studies, but their absolute necessity if we would treat our patients well and wisely. The ophthalmoscope is no longer what it was considered, an amusing toy, it has done earnest, steady, and useful work and should take its rank with the microscope and the stethoscope, as a means for investigating disease.

# NORTHUMBERLAND & DURHAM MEDICAL SOCIETY.

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THE fifth monthly meeting of the Society was held on Thursday evening, February 8th, 1872, Dr. BURNUP, President, in the chair.

The following gentlemen were elected members of the Society :--

Mr. W. R. Coward.

Dr. Newcombe.

Dr. HUMBLE asked if there was any rule as to the length of a paper, or any limitation as to the subjects to be treated of in a paper.

The PRESIDENT thought the only limit as to time was the patience of members, and that the range of subjects was unlimited, except that they must be "medical or surgical."

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## PREVALENT DISEASES.

Mr. H. E. ARMSTRONG had observed a slight increase in small-pox. Now, about 26 cases in Hospital. Typhus not extending ; 15 cases, all doing well. Type of small-pox less virulent.

Dr. WILSON (Gateshead) had observed an increase in last few weeks.

Mr. H. E. ARMSTRONG said several new cases had appeared in Dispensary practice,

Mr. BROADBENT (South Hetton) had several cases in last month, some rapidly fatal. In some hæmorrhagic cases an unqualified man had been called in, and had bled them, with a rapidly fatal termination.

Dr. PHILIPSON had had his attention forcibly called to the question of vaccination in attending a case with a medical man in Newcastle. The other members of the family, children, were all unvaccinated, and the parents obstinately refused vaccination, in spite of the urgent recommendations of Mr. Gregson. Dr. Philipson

stated that his brother-in-law was the leader of the Anti-Vaccination League in Sheffield, and, in reply to a letter, had urged him not to vaccinate the children; but ultimately yielding, they were vaccinated, and all were saved from small-pox. With reference to the propagation of small-pox, at Dr. Philipson's reception at the Infirmary, a man had presented himself, accompanied by his housekeeper, who showed an inflamed finger, which she attributed to attending cases of small-pox last week; and yet she wished to go to the ward with the patient, and to visit him at other times.

Mr. BROADBENT had seen two cases of scarlatina and small-pox in same individual at one time.

Mr. H. E. ARMSTRONG had seen several cases which showed first a bright florid redness in the face preceding small-pox, and all ended fatally. As to the propagation of small-pox, Mr. Armstrong referred to a case mentioned in the daily journals of a man travelling by rail, with small-pox, seeking admission to the Hospital, and who died there.

Mr. L. ARMSTRONG was called to a public lodging-house in this town, and was asked to look at a man full of small-pox, who had been sitting amongst a crowd of lodgers in the house. In the same house was a man ill of small-pox. The first man had gone to the relieving officer for an order for the Hospital, and although he was plainly suffering from small-pox, he was kept in the common waiting-room at the Poor Law Office from two to five p.m.

Mr. CARR believed there were well-authenticated cases of small-pox after successful vaccination, and asked if any members had seen such.

The PRESIDENT mentioned one such case in his own practice.

Dr. WILSON had not seen such a case, though many whom he had re-vaccinated had been greatly exposed to infection.

Mr. CARR had seen a case ending fatally only five months after a mild attack.

Mr. H. E. ARMSTRONG insisted on the necessity of vaccination with primary as distinct from secondary lymph, and on vaccination being properly performed so as to give a cicatrix lasting through life.

Mr. BROADBENT had received visits in his district from three inspectors, two of whom had been satisfied, and the third, quite the contrary, insisting on three vesicles being put on the arm in a triangular form.

Mr. H. E. ARMSTRONG mentioned a peculiarity in the cicatrices he had seen in German patients.

# NORTHUMBERLAND & DURHAM MEDICAL SOCIETY.

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THE sixth monthly meeting of the Society was held on Thursday evening, March 14th, 1872, Dr. BURNUP, President, in the chair.

## PATHOLOGICAL TRAY.

Mr. JEAFFRESON exhibited a piece of catheter which he had extracted from the bladder of a gentleman, by means of the lithotrite, and made the following remarks :—A gentleman came under my care, suffering from a chronic form of inflammation of the urethra, and several strictures. After a prolonged treatment, a catheter, No. 7, was passed in the bladder, and he was directed to retain it for several hours. Being in a sleepy condition when he withdrew the catheter, he placed it by his bedside till the next morning. On making my visit, I found that the catheter was minus about six inches of its end. As the patient felt sure that he had withdrawn the whole, and that the catheter must have been accidentally broken, no anxiety was felt, especially as a careful examination of the bladder failed to indicate the presence of a foreign body. In the course of a few months, violent symptoms of cystitis set in ; these, however, abated to a considerable extent under treatment. Repeated examinations were made by myself and several of the most eminent surgeons in London, under chloroform, with both sound and lithotrite, with a view of detecting the presence of a foreign body, but without success. One morning, whilst examining with a lithotrite, I found that I had grasped something, but having screwed up the blades to their utmost extent I found I could not withdraw the instrument from the bladder. The dilemma was an awkward one. In vain I opened the lithotrite, and attempted to free the end from whatever had become impacted between the blades. It was useless ; under these circumstances I determined to withdraw, if possible, the foreign body in the grasp of the instrument ; and, after a good deal of coaxing, and some considerable force, I withdrew the portion of catheter. It was coated with a thick layer of phosphatic material, having been two years in the bladder.

Mr. JEAFFRESON exhibited a breast affected with encephaloid cancer which he had recently removed from a young unmarried lady, 19 years of age. The skin over the tumour had broken, and the whole breast had become a huge fungating mass, the removal of which did not leave enough integument to cover the wound; nevertheless, the patient made a rapid and satisfactory recovery.

Mr. JEAFFRESON exhibited three patients upon whom he had operated for cataract. These cases refer to the paper which follows, and were meant to illustrate the most perfect results of flap extraction. One was a huntsman, who, after several years of blindness, now hunts the hounds; the second was a watchmaker, who can perform the fine work of his business; and the third was a farmer, who can read No. 1 Taeger, and perform all the duties of his business with ease and comfort.

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## NOTES OF A CASE OF LEUCOCYTHÆMIA.

By G. H. PHILIPSON, M.A., M.D., CANTAB.; M.R.C.P., LOND.

JAMES W., aged 29, was admitted into the Newcastle-upon-Tyne Infirmary, under my care, on January 18th, 1872. He stated that he had not been well for five months, that he had been unable to follow his employment for seventeen weeks, that his illness had commenced with pain in the left side of the abdomen, shooting through to the back, and that he had been gradually becoming thinner and weaker. He had been a well-sinker for twelve months, having been employed in Northumberland, and previously was engaged as an agricultural labourer, having lived in Norfolk, where he had enjoyed uninterrupted good health. He complained of great weakness, nausea, which was at times accompanied with vomiting, disinclination for food, irregularity of the bowels, and general abdominal uneasiness. His complexion was sallow, conjunctivæ, lips and tongue pale, pulse slow and feeble, muscles flabby, and skin dry and loose. He had never suffered from hæmatemesis or other hæmorrhage.

Upon examination, the left hypochondriac and iliac regions were found to be occupied by a hard tumour, which extended fully two inches to the right of the umbilicus, upwards as high as the sixth interspace and downwards within an inch of pouparts ligament. To the hand, the tumour was smooth and appeared near to the surface, being uncovered by intestine, its anterior border was notched, both above and below the umbilicus, while the fingers could be passed

behind its posterior border. The tumour was distinctly lowered during a deep inspiration. There was no evidence of fluid in the peritoneum or sign of other dropsy.

The heart's impulse was visible about an inch and a half within the left nipple and slightly above the nipple line. No bruit was heard over the tumour, or at the base of the heart, or over the commencement of the aorta, or pulmonary artery.

Upon microscopical examination of the blood, the white corpuscles were found to be greatly increased in number, and mass for mass appeared equal to the red. Many of the white corpuscles were large and oval, and seemed to be filled with granular matter. The red corpuscles were tolerably natural, arranged in rouleaux, with intermediate spaces, which were more or less crowded with the white corpuscles.

A gentle laxative, an effervescing mixture, milk, beef tea, and wine were prescribed.

January 26th.—It was noted that the vomiting had abated, but that the debility had increased, and that there was a tendency to wandering.

February 2nd.—Over the left side of the face, a faint erysipelatous rash was visible. The same evening he became delirious, and died at 1 a.m., on the 3rd.

The friends would not allow a *post mortem* examination.

From the microscopical examination of the blood and the physical signs, the case was regarded as one of leucocythæmia associated with chronic enlargement of the spleen.

The absence in the previous history of ague or other malarial disease, of any serious acute affection or chronic exhausting disease, is of interest.

The absence of any hæmic murmur is in support of the hypothesis that such murmurs are not generated by white cell blood, but by a watery condition of the blood, produced by excessive or repeated hæmorrhages.

Dr. GIBSON wished to ask Dr. Philipson two questions. 1st, whether the granules observed with the microscope were nucleated? and 2nd, whether there was a diminution in the elimination of area?

Dr. GIBB had recently had a somewhat similar case under his care. His patient had the same pallor of face described by Dr. Philipson, and a spleen of immense size. There was no history of having suffered from malaria. At first the symptoms resembled much those of diabetes insipidus, large quantities of watery urine being passed.

Dr. EASTWOOD said that the case just read very much reminded him of a case which he had seen under the care of Dr. Bennet, of

Edinburgh ; it was one of the first cases that had been observed, and had made an impression upon his memory.

Mr. JEAFFRESON had frequently in India observed cases of malarious cachexia and enlarged spleen, in patients who had never been the subject of marked intermittent fevers. It was not uncommon to meet with such cases in tropical countries ; one should not, then, too rapidly come to the conclusion that a patient was suffering from leucocythæmia because he had a pale and hectic look and an enlarged spleen. Latterly ophthalmoscopic researches had shewn that a peculiar form of retinitis was present in most genuine cases of leukæmia, and he regretted this test had been overlooked in Dr. Philipson's case.

Dr. PHILIPSON, in answer to Dr. Gibson, stated that the white corpuscles were finely granular, but non-nucleated ; and that the urine was normal.

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## REPORT OF A CASE OF PHTHISIS PULMONALIS, ACCOMPANIED BY ULCERATION OF THE LARYNX AND PLASTIC EXUDATION INTO THE TRACHEA AND BRONCHI.

By G. H. PHILIPSON, M.A., M.D., CANTAB.; M.R.C.P., LOND.

JOHN S., aged 30, a Norwegian, was admitted into the Newcastle Infirmary, under my care, on January 18th, 1872. For nine months, he had been employed as a fitter, at one of the engineering works on the Tyne. For six months he had suffered from cough, shortness of breath, occasional pain in the chest, slight hæmoptysis, loss of flesh, and gradual impairment of strength.

At the time of his admission, he was much emaciated, his voice was husky, his cough was almost incessant, and he was expectorating large quantities of nearly pure pus. His pulse was feeble, 120, and his respirations were short and hurried, 33.

The chest anteriorly was flat, and was almost stationary, even in forced respiration. There was marked dulness upon percussion in both infra-clavicular regions and in the left upper scapular region. The irritability of the muscles under percussion was well marked. The respiration was harsh, bronchial, and was accompanied with bubbling rhonchus, especially in the left infra-clavicular region. Upon examination with the laryngoscope, the mucous membrane of the larynx and chordæ vocales was seen to be ulcerated.

A strong solution of nitrate of silver was applied to the larynx with the curved brush, and sedatives, nourishing food and wine were administered.

January 27th.—The respiration in the left infra-clavicular region was hollow, cavernous, and was accompanied with gurgling rhonchus. The voice was muffled, and was at times changed into a hoarse croaking whisper.

February 10th.—After some hours of urgent dyspnœa, and during a violent paroxysm of coughing, the patient expectorated a piece of false membrane, about four inches in length, tubular at one extremity, and distinctly transversely marked and indented. From its size it was surmised that it had been dislodged from the lower portion of the trachea or from one of the main bronchi.

On the evening of the 12th, he died from exhaustion, but without having ejected any further mass.

Autopsy, 57 hours after death. The lungs were both adherent to the chest wall, the left more firmly than the right, especially near the apex. The upper lobe of the left lung was excavated with caverns, anfractuons, about the size of large nuts, communicating one with another, and with indurated lung between them. The upper half of the lower lobe was studded with yellow and grey tubercle, the yellow being in excess. The lower half of the lower lobe was darkly congested. The main bronchus and bronchial tubes were lined with false membrane, which at places was loose and easily raised. The pleural covering of the upper lobe was greatly thickened, that of the lower lobe was spotted with dark pigment.

The upper lobe of the right lung was similar in appearance to that of the left, with the exception of the cavities being smaller, many not being larger than peas. The lower lobe was dotted with yellow and grey tubercle, the grey preponderating over the yellow. The main bronchus and bronchial tubes were lined with false membrane.

The trachea, was lined throughout with false membrane, which was separable in layers and easily raised from the mucous surface, which was tumid and of a dull red colour. The false membrane very closely resembled moistened parchment, and when examined under the microscope, appeared to be made up of altered epithelial cells.

The cavity of the larynx was covered with pus. The mucous surface presented an irregular shaped loss of substance, with serrated ragged edges. The chordæ vocales could not be recognised. The heart, liver, and kidneys were healthy. The bronchial and mesenteric glands were not enlarged nor tuberculated.

The particular interest of this case is the association of tubercle in the lungs and of tubercular laryngeal ulceration with the

formation of false membrane in the air passages, the ulcerative action being limited to the larynx, and the membranous, croupous, or aphthous inflammation to the trachea and bronchial ramifications, large and small. The two processes, that of the morbid condition of the blood giving rise to the deposition of tubercle, and to the membranous inflammation, affecting the same continuous membrane, being in close juxtaposition and being apparently dissimilar, yet resembling each other, in the lowness of organisation of the products. Possibly, the exudation upon the mucous membrane of the respiratory tract was only an extreme condition of that form of aphthous or diphtheritic stomatitis, which is not uncommon towards the close in cases of chronic phthisis pulmonalis.

The condition of the lungs very typically exemplified the anatomical characters of tubercle, and the changes which the tubercles undergo; namely, that tubercle in its early stage is grey and afterwards becomes yellow, that yellow tubercle softens, and finally gives rise to excavation.

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## CASES OF EXTENSIVE WOUNDS OF THE KNEE JOINT.

By FREDERICK PAGE, M.D.

THREE cases of wound of the knee joint have been treated in the Infirmary during the last year, one by Mr. Russell, and two by Mr. Armstrong, and it is to these gentlemen that the society is indebted for the short account which I am permitted this evening to lay before you.

J. B., an Irish labourer, 28 years of age, who 13 days previously had been made an out-patient, after residing ten weeks in the Infirmary under treatment for a severe burn, extending from the middle third of the left thigh to two inches below the knee, was re-admitted March 7th, under Mr. Russell. Patient stated that while employed at some light occupation he had fallen a distance of four feet, among some soft shingles, his knees being bent. The left knee was at the time bandaged, there still being an ulcer about the size of a fourpenny piece, situated some little distance above the patella. Upon examination, the cicatrix resulting from the burn was found to have given way across the joint. The insertion of the quadriceps extensor femoris into the superior margin of the patella was torn through, and the knee joint exposed by an angular

rent, seven inches in length, extending from the insertion of the ham string muscles on one side, to a corresponding spot on the other. It was determined to make an attempt to save the limb. The joint was syringed with an aqueous solution of carbolic acid, one part to forty, the lips of the wound retained as near as possible together by wire suture, and the limb confined by means of a roller saturated with solution of silicate of soda, to a straight back splint provided with a foot-piece, and extending to the tuberosity of the ischium. Several thicknesses of lint, soaked in equal parts of glycerine and carbolic acid were placed over the wound, and a bladder of ice applied. In the evening the temperature in the axilla had risen to 104, and the pulse was 132. For nearly six weeks the evening temperature continued high, frequently reaching 102, but only once again rising to 103 degrees. For the first ten days there was troublesome diarrhoea notwithstanding the free exhibition of solid opium. The progress of the case was most satisfactory, suppuration occurred, firm ankylosis was established, and the man left the Infirmary with a limb much more useful and ornamental than a wooden leg.

The second case was even more successful. W. F., aged 38, was admitted under Mr. L. Armstrong on the 13th of May. A rectangular clean cut wound leading into the knee joint, by an opening admitting the fore finger, was situated a little above and to the inner side of the left patella. The joint was syringed as in the previous case, the wound dressed with carbolic oil, and the limb put up in a silicate bandage. Patient was kept under the influence of morphia, administered hypodermically. On the eighth day the wound was dressed for the first time, and on the 20th patient left the Infirmary, having perfect use of the joint. At no time during the progress of this case did the temperature ever rise higher than 102 degrees, and on only one occasion did it rise so high. Diarrhoea was troublesome for the first week, and ceased when the morphia was discontinued.

The third case was not so satisfactory. L. H., aged 42, admitted May 1st, under Mr. L. Armstrong, had sustained a very severe contusion of the lower part of the thigh and upper part of the left leg. There was also a small wound, which unfortunately was not discovered to lead into the joint till the man had been under treatment for a few days. On the twelfth day of treatment, which consisted in the administration of morphia, the morning temperature rose to 107, falling at night to 102 degrees, and on the 18th day after the accident patient died of surgical fever.

# A FEW OBSERVATIONS ON UTERINE SURGERY, ILLUSTRATED WITH INSTRUMENTS.

By ANTHONY BELL.

MR. PRESIDENT AND GENTLEMEN,—

My object in introducing this subject on the present occasion is not so much to show the disadvantages we provincial surgeons labour under in procuring proper surgical appliances, as compared with metropolitan surgeons, as to bring before your notice one or two new instruments that may prove useful in uterine operations. Allow me, at the outset, to draw your attention to Marion Sim's univalve or duck-billed speculum. I think we are all agreed that this is by far the most useful instrument for such operations; and yet I must confess that I have experienced undoubted benefit from the slight addition I have here made to it, as illustrated by Figure I.

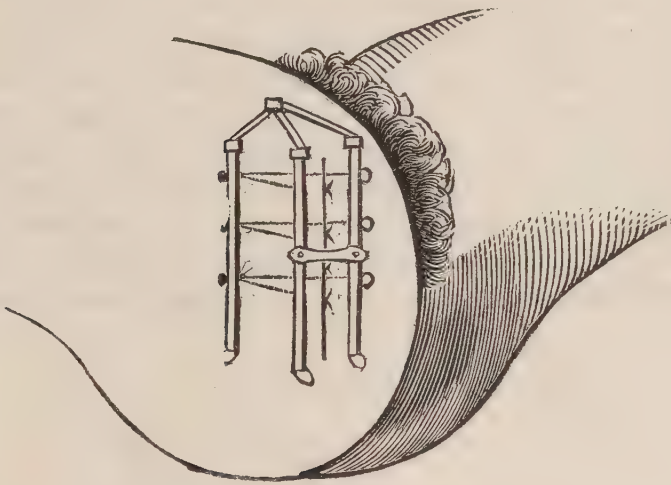
FIG. I.



You are, of course, aware that in many uterine cases we deem it quite unnecessary to administer chloroform, the consequence with a certain class of patients being that they breathe hurriedly from fear, bear down, or cough, and thus prolapsus of the posterior wall of the bladder is produced to such an extent as materially to interfere with the successful performance and completion of the operation. The benefits that must accrue from the addition are clearly demonstrated by the fact that this instrument, as modified, not only secures more vaginal space, but prevents the anterior wall

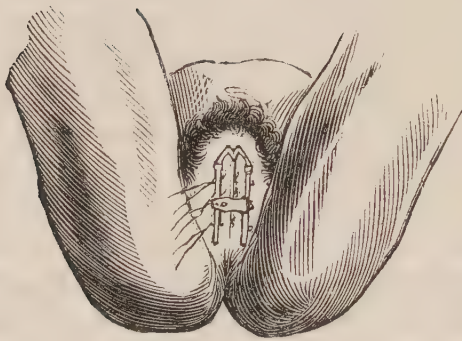
of the vagina from being forced down. The uterine organs are thus exposed more freely to view, whilst they are at the same time protected from injury during the application of the cautery or other remedies to the os or cervix uteri. If the prop of the upright be pushed backwards as far as it will go, its upper part will enter the anterior cul-de-sac of the vagina, carrying with it the fundus of the uterus backwards. It, therefore, rectifies anti-version, brings the aforementioned parts of the uterus in situ, and by allowing greater facility for the introduction of a sea-tangle tent, or other application that may be considered requisite, dispenses with the use of the tenaculum or the uterine depressor. The small speculum represented on Figure I. is the same instrument with the uprights down.

*Fig. 2.*



The next instrument, gentlemen, is designed for the restoration of lacerated perinæum, and is intended to supply the place of the deep-quilled suture. For convenience of description, it may be divided into five parts, as represented in Figure 2.

In its application, so far as the operation is concerned, it differs little from the rules laid down in surgical works, further than that the deep sutures should be introduced at a distance of one inch from the pared edge, passed through the vaginal portion of the mucous membrane, one-fourth of an inch from the freshened surface, and be brought out on the other side at the same distance as that from which it entered. The sutures having been inserted, are passed over the left anterior wing, round the posterior, which rests within the vagina, and are finally secured on the right anterior wing, thus bringing the two anterior wings clasped together. The

*Fig 3.*

- superficial sutures are these introduced, and a better coaptation of the parts is secured; there is also less risk of a fistulous opening being left, from having a better chance of healthy union by the first intention. There is one point in the operation which I highly approve of, and the suggestion I had from our excellent surgeon, Dr. Heath. It is, that instead of transfixing the parts, and thus removing a good deal of the original perinæum, the mucous membrane should simply be removed, care being taken that not a particle is left on the freshened surface. The chief advantage resulting from this is that there is much less bleeding than under the old method, and the little hæmorrhage that does occur may, with care and patience, be readily stopped by torsion, so that there is a far better chance of a healthier perinæum being formed.

*Fig. 4.*

I have now, gentlemen, to allude to another important operation, viz., that of vesico-vaginal and urethro-vaginal fistula. Knowing, as we do, the distress and discomfort produced by this painful condition, it behoves us to bestow the utmost attention upon every step, even the most minute in the operation, that may tend to insure a successful result. In our Infirmary, and in private practice, I have observed the difficulty met with in paring the inverted edges of a urethro-vaginal fistula, even with the assistance of a fine pair of forceps or tenaculum. I have, therefore, had an instrument made, as illustrated in Figure 4, which I trust will greatly facilitate the performance of the operation by everting the inverted edges of the fistulous opening. This instrument, indeed, enables the surgeon to pare the edges with the greatest nicety, and to a hair's breadth of the urethral mucous membrane, not only making the introduction of the sutures more easy, but at the same time protecting the urethra from injury.

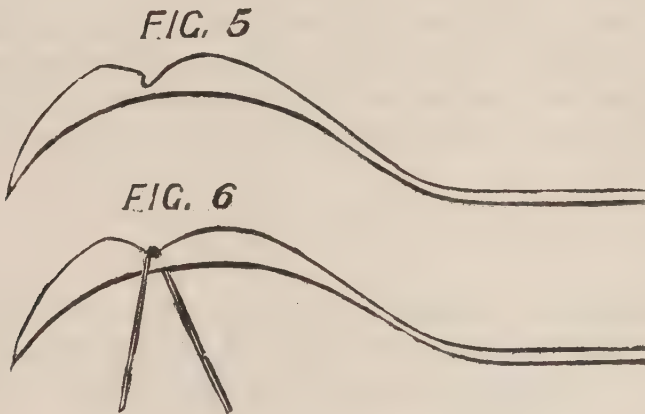


Figure 5 illustrates the deep quill suture needle, or the ordinary suture needle with handle in its simplest form. This instrument was first used by Dr. Heath, to whom we are greatly indebted for many of our most ingenious and most successful surgical appliances, although he has not taken the trouble to lay claim to them publicly. For ordinary purposes, it has always been of the greatest practical utility, and can never be dispensed with; but, for the operations I have alluded to, I have long felt that something more was required in order to facilitate their successful performance. Some time ago, it occurred to me that this desideratum might be attained in the shape of a needle with the eye entering from the side. I need scarcely say that I have put myself to no little expense to obtain the desired instrument; and it is in great measure owing to Mr. McQueen, surgical instrument maker, Newcastle, that I am now able to place before you

what I think I am fairly entitled to call a perfect needle. Allow me to draw your attention to the needle unthreaded in Figure 5. It will be seen that the proximal side is exceedingly smooth, and will easily glide through the parts. The silver wire or other suture being inserted in the notch, both sides are thus equal (Figure 6), so that its withdrawal is as readily accomplished as its introduction. This instrument will be found of the greatest utility in uterine operations, and especially for lacerated perinæum, where it is important that the structures should be stretched or lacerated as little as possible. The surgeon simply introduces the needle through the left side of the lacerated perinæum from within outward; it is threaded, withdrawn, and the suture disengaged; the needle again is introduced on the right side from without inwards, catches the suture in the groove once more, and then withdraws it.

I hope I may be pardoned for so minutely explaining the practical application of this little instrument. In speaking of operations of this kind, where perfect success may in many cases be said to depend upon nicety of detail, too much attention cannot, I think, be bestowed upon such minutiae, as I know from experience that we junior surgeons are only too glad to receive information in regard to the latest and most approved rules of scientific surgery.

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## ON A CASE IN WHICH THIRTY-NINE GALL STONES WERE DISCHARGED FROM A TUMOUR SITUATED BELOW THE UMBILICUS.

By R. T. MANSON.

THE patient in this case is a woman about 39 years of age, of spare habit, sallow complexion, and with an anxious expression of countenance. She is married, and has had several children.

I first saw her on 20th January last. She was complaining of a swelling in the abdomen, which she had first noticed about three weeks previously.

On examination, I found a hard tumour situated in the median line of the abdomen, extending from the umbilicus to two inches below it. It was  $1\frac{1}{2}$  inch broad, rounded at the lower portion, adherent beneath, hard and unyielding to the touch, except at the lower extremity, where the skin, which elsewhere was of the natural colour, and freely movable, was stretched over a portion of the tumour, about the size of a shilling, quite circular, convex, soft to the touch, and vascular in appearance.

The woman complained of lancinating pains which were not always present.

In September last, she had been ill from what she was told was inflammation of the liver, and she is subject to what she calls bilious attacks.

The liver was considerably enlarged, but there was no tenderness. The recti muscles were exceedingly well developed.

Inclining to the opinion that the tumour might be of a malignant nature, I only directed her to wear a hollow pad, so as to keep the pressure of the clothing from the swelling, and not to tamper with it by means of oils or salves.

The case was seen a few days after by my friend Mr. Thwaites, of Bishop Auckland. No positive conclusion as to its nature could be arrived at ; but Mr. Thwaites thought he could detect a hard band extending from the left lobe of the liver to the tumour, and was of opinion that the tumour was connected with that gland. Ten days after the case was first seen, the skin over the circular soft place gave way and exposed a granulated surface from which a thin glairy fluid exuded. There was no perceptible orifice. Four days afterwards, on visiting the woman, I was shown a number of gall stones, specimens of which I show you, which had come away from the swelling. Since then, others have been discharged—in all 39. The whole tumour is less—the raw surface is healing up, leaving two openings which discharge a green glairy fluid. The woman says she knows when a stone is coming away, as she can feel it moving.

Probably there are more left behind. The treatment has been expectant, except that she took small doses of calomel, and subsequently chloride of ammonium and Fowler's solution.

The distance traversed by the gall stones makes the case interesting. The pathology of the case, I presume, is this, that the gall bladder having become packed full of these stones, inflammation, ulceration, and perforation took place, and that the calculi gradually burrowed down between the recti muscles until they came to the place of exit. There is no history of jaundice, and possibly the illness of September was caused by the adhesive inflammation which must have taken place between the gall bladder and the abdominal parietes.

Whether the tumour will be absorbed when emptied of calculi, or whether it may still prove to be of a malignant character, are questions to be answered by time.

The calculi themselves present numerous facets with rounded edges. Indeed, they seem, to use a geological term, water-worn ; as if they had not descended to the place of exit tightly packed in a sac, but had rolled over one another and got the corners ground off.

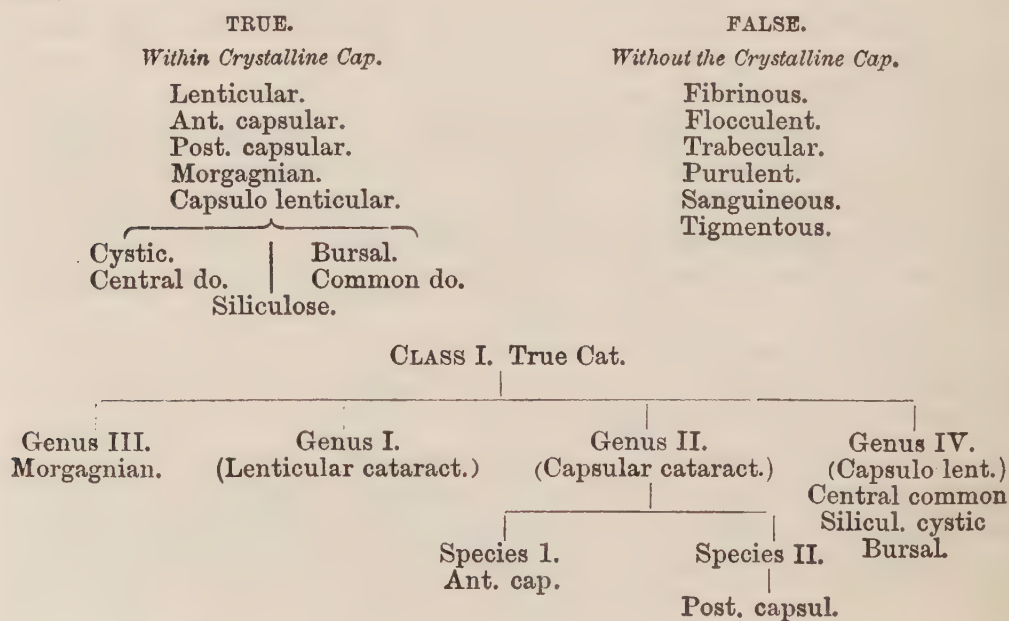
In conclusion, I may mention that I could only get a few of the calculi, many of them having been distributed round the country side among the patient's friends, as interesting mementoes of a woman who had "small paving stones in her belly."

## REMARKS ON THE EXTRACTION OF CATARACT, WITH A TABLE OF CASES.

By C. S. JEAFFRESON.

THE disease which we term cataract, like most other maladies, did not escape the observation of the first fathers of the profession, however erroneous may have been their views as to its pathology, causes and treatment, and the affection still bears the name, which it did centuries ago, derived from the curious idea that it was caused by the flowing of a turbid humour over the clear pupil of the eye. Thus, in the works of Albucasis, we find a chapter headed, "De cura aquæ quvæ descendit in oculo, vel cataracta."

The classification of cataracts, like many other questions of ophthalmic surgery, have been made a subject of great complexity, and with very little useful bearing in a practical point of view. Thus, if we take that of Dr. Mackenzie, we find he divides cataracts into



What purpose this complex division can serve I am at a loss to know, unless it is to frighten all those who intend to make ophthalmic surgery their special study. Following a more simple method, and one which has for its basis the practical question of treatment, Mr. Soelberg Wells, in his work upon the eye, has divided cataracts into, 1st, nuclear or hard; 2nd, cortical or soft; and 3rd, the lamellar. The first require extraction, the 2nd division, the 3rd, some alteration in the pupil, operative or otherwise. This will be found practically the most useful division in speaking of cataracts generally, for no system can be formed which would embrace all the different shades of variation to be found in nature, whereas this condition of consistence is generally marked in all cases, and indicates in a general way the line of treatment to be adopted.

To the surgeon, the great question at issue is: Is the cataract hard or soft? Is it complicated or simple? In deciding the first question, the age of the patient will play an important part. Hard cataract is scarcely met with before the age of 45, although not unfrequently seen at a later period, but more direct evidence may be obtained by careful examination under oblique illumination. If the lens appears of a yellowish amber or brown hue, its surface flattish, if there appears a fair amount of space between its anterior surface and the posterior surface of the iris, in other words, the post chamber, we may infer that the cataract is hard. If, on the contrary, the colour of the lens be milky, or whitish, the surfaces appearing more convex and diminishing, or perhaps entirely filling the cavity of the post chamber, we may surely expect to find the lens soft if not in its entirety, at least in a great portion.

Before operating for cataract, we are frequently called upon to give an opinion as to the probable result of the operation, and the answer we give is dwelt upon with great anxiety by the patient. We should, I think, always encourage our client, unless under special circumstances, at the same time guarding our position by explaining some of the difficulties and dangers which always follow an operation. It is better to do this in the presence of some third party, as in the event of failure, patients not unfrequently blame the surgeon for not having pointed out the risks.

Of all the complications, the one that is most difficult to foresee, and is fraught with the greatest danger, is a fluid condition of the vitreous tumour, it may occur in an eye which to all appearances is perfectly healthy, but we should suspect it if the tension of the globe is increased, and the conjunctiva and sclerotic, instead of having their normal bright hue, appear of a muddy brown colour, indicating degeneration, and our suspicions would be materially increased if, when grasping the conjunctiva at the time of operation, we find its structure rotten and breaking down under the forceps. In

these cases, we should be particularly careful and gentle in making the corneal section, avoiding anything like a jerk at the end of the incision, for should this occur, the lens in its capsule not unfrequently starts from the globe, followed by a large quantity of vitreous, and the sight is for ever lost. Sometimes, after large losses of vitreous, a fair amount of sight may remain, and the patient is buoyed up with the hope that he may obtain useful vision; in the course, however, of a few months, or perhaps weeks, the eye begins to shrivel and collapse, and total blindness results. However carefully the corneal section may be made, and however dexterously the lens extracted, a gush of aqueous unavoidably escapes, the iris is prevented from assuming its proper position, and the lips of the wound are kept widely asunder by the glairy vitreous, and things in general present a very ugly appearance. No attempt should be made to rectify the position of the iris, but the eyelids should be immediately closed, great care being taken to secure that the flap of cornea is not turned back, an accident which is especially liable to occur in these cases on account of the gaping of the wound. The healing process goes on in these cases almost as favourably as if the eye were perfectly sound, unless, as frequently happens, a piece of iris becomes entangled in the wound. This accident prolongs the treatment beyond the usual period. Many operators dispense with the use of the speculum during extraction of cataract; this plan, I think, must naturally increase the danger in cases of fluid vitreous, it being impossible to obtain the requisite steadiness of the globe without exerting an amount of pressure which would be highly injurious. Whereas, by means of the speculum and toothed forceps, almost absolute immobility may be obtained without the slightest degree of pressure.

I have proposed by means of a very simple operation, to diminish the risk which attends these cases. This consists in introducing a needle through the sclerotic into the vitreous, immediately behind the lens, and withdrawing a small quantity. I believe this proceeding would be attended with great advantage, as it would diminish the distension of the globe, and prevent that sudden gush which is so destructive when the corneal section is completed in the ordinary method.

It by no means follows as a necessary consequence that because we have found a fluid condition of the vitreous in one eye that the same condition will manifest itself in the other, the degeneration of the vitreous stands last in the series of changes which occur in the cataractous eye and is likely to be present in direct ratio with the rapidity with which the cataract has formed. Thus, if in one eye the cataract has formed rapidly, has become rapidly mature, and has been allowed to remain for a long period in a mature state, it is probable that degeneration of the vitreous will have taken place.

If, on the other hand, the cataract has formed very slowly, and has only just arrived at maturity, the chances are in favour of the vitreous retaining its usual firmness. These points become of great practical utility, pointing out how necessary it is not to leave a mature cataract any length of time without operation, and further shewing that in some cases where we have reason to suspect degeneration of the vitreous is likely to ensue, it may be necessary or judicious to operate even before the cataract has become mature. I believe the chances of success in many cases are materially affected by that procrastination which in some cases is due to the fear of the patient, in others to the desire of the surgeon that nothing should be undertaken until perfect opacity has supervened.

Another complication not less troublesome because it is easily recognised, is an adhesion of the iris in the form of either anterior or posterior synechia. The former are rare unless in cases of traumatic cataract, which have been complicated with a wound of the cornea and prolapse of the iris, the latter common. I believe from a careful consideration the adhesions of the iris to the lens may be divided into two classes. 1st. Those which are primarily due to inflammatory action in the iris; and 2nd, those which are due to the enlargement of the lens, which brings it in contact with the iris. The adhesions which result from previous iritis are generally tough, varying much in extent, once firmly established they can rarely be broken down by the action of belladonna, their existence increases much the dangers and risks of an operation no less by their mechanical interference, that, from the fact that their existence indicates a previously inflamed condition of the contents of the globe, of which the cataract has probably only been the result. The adhesions that result from the swelling of the lens are generally easily broken down under a strong solution of atropine allowed to act energetically by confining the patient in a dark room, they are produced by the swollen lens lying constantly in contact with the iris, thus they are usually seen in large soft cataracts. When the pupil dilates, its feeble connections are broken down, but not unfrequently a considerable quantity of uvea is left sticking to the lens. The prognosis in these cases is not more unfavourable than ordinary, for these adhesions only indicate an extremely slight amount of local inflammation in the iris, the result of contact with the lens.

But should we not be able to break down these adhesions by means of atropine, we may proceed to operate without fear, as they will readily give way when the capsule is lacerated. In the tougher kind of adhesions we dare not do this, and if they exist, a preliminary operation will probably be necessary if we determine to operate.

No.	Age.	Kind of Cataract.	Operation.	Result.	Remarks.
1	19	Siliculose cataract, the result of irido-choroditis in early life; extensive adhesion of iris perception of light; has been blind for 13 years	Flap extraction, with iridectomy	Can perceive large objects, and is able now to go about the streets	
2	...	Left eye of above; same condition as above, but doubtful if light can be perceived	Do., without the iridectomy	No improvement	
3	13	Brother of above; eye in same condition, but adhesions less extensive; lens cretaceous	Do. do.	No improvement	I operated on this boy only at his mother's earnest solicitation
4	1½	Congenital cataract; lens milky bluish tint	Suction operation	Pupil quite clear two months after	These operations were performed at the same time
5	...	Left eye of above	.....	Do. do.	
6	14	Well-marked congenital cataract; sight deteriorating; unable to follow his occupation as joiner	Suction operation	Almost perfect restoration of vision	In this case both operations were done at one sitting; the boy is now following his occupation, but will require further treatment
7	...	Left eye of do. in same state	Needle operation on two occasions	Sight much improved; a large piece of opaque capsule still present when last seen	
8	35	Large well-marked cortical cataract	Flap extraction	Good vision with central pupil	In this case the patient was in a most exhausted state from long standing diabetes; for this reason I preferred extraction
9	...	Left eye of above	Do. do.	Suppuration of globe	
10	50	Nuclear cataract	Flap extrction	Pupil slightly displaced, but vision perfect	
11	65	Nuclear cataract	Dr. Taylor's operation	Vision fair; can see large objects, but cannot read	This was a most obstinate patient, the healing process was prolonged

No.	Age.	Kind of Cataract.	Operation.	Result.	Remarks.
12	70	Nuclear cataract	Flap extraction	Central moveable pupil; vision perfect	
13	...	Nuclear cataract; right eye of above	Do. do.	Central moveable pupil, with perfect vision	Some 14 days after operation through some accident she received a blow, and the result was secondary prolapse of iris; I removed the portion, and sight is as good as ever
14	60	Nuclear cataract, with soft urtise	Flap extraction; considerable escape of vitreous	Pupil displaced upwards; vision fair	This patient lived at a distance, and I'm afraid did not receive much attention
15	70	Nuclear cataract	Flap extraction	Pupil not regular, owing to slight prolapse of iris; vision good	This patient was attacked with hæmaturia, and had large ulcerations on leg
16	73	Nuclear cataract	Flap extraction	Central moveable pupil; perfect vision	
17	64	Nuclear cataract	Flap extraction; considerable escape of vitreous	Pupil displaced upwards; good vision	A most intemperate man, with many signs of degeneration
18	60	Nuclear cataract	Flap extraction	Central moveable pupil; perfect vision	The other eye lost in a previous operation, owing to large escape of vitreous
19	78	Nuclear cataract	Flap extraction	Central moveable pupil; perfect vision	Suffered from anæmia and chronic bronchitis
20	83	Nuclear cataract	Flap extraction	Panophthalmitis and total loss of vision	I operated in this case against my inclination; the patient was feeble to a degree, and almost imbecile; the inflammation spread to the membranes, and there was maniacal delirium; curiously enough, the patient survived

No.	Age.	Kind of Cataract.	Operation.	Result.	Remarks.
21	56	Nuclear cataract	Flap extraction; lens escaped in capsule, and slight escape of vitreous	Pupil displaced upwards; fair vision	
22	62	Nuclear cataract	Flap extraction	Pupil almost perfect; vision good	
23	56	Nuclear cataract	Flap extraction	Pupil slightly irregular; vision good	
24	60	Nuclear cataract	Flap extraction	Central pupil; vision perfect	
25	28	Traumatic cataract	Flap extraction	No improvement	Slight adhesion of Iris; subsequent iritis and pupil blocked by lymph
26	60	Nuclear cataract	Flap extraction	Central moveable pupil	Had been previously operated upon the other eye with perfect results
27	16	Traumatic cataract	Flap extraction	Central pupil; perfect vision	A piece of metal was imbedded in the lens and was removed with it
28	70	Nuclear cataract	Flap extraction	Central moveable pupil; vision perfect	This patient had severe vomiting and paroxysms of sneezing, he had a polypus in the nose of which I was unaware; no chloroform
29	45	Nuclear cataract	Flap extraction	Serous iritis; almost blind	Apparently a healthy woman; lens softish on the surface; iritis came on on the third day; iridectomy then performed; can be improved by a subsequent operation
30	60	Nuclear cataract	Flap extraction	Central moveable pupil; perfect vision	

An analysis of the above cases gives the following results:—  
30 operations have been performed; of these 25 were successful,

5 were failures, but if we strike out the 3 in which the operation was not indicated, and only undertaken at the earnest request of the patients, there will be 27 cases, of which 25 were successful, 2 failed ; of the 25, 14 had perfect eyes ; in 10, vision was very good, though not quite perfect ; in 1, large objects were perceived.

This success is far beyond what is reckoned to be a fair average, thus, Makenzie, in his work, mentions three-fourths as recovering useful vision, and two-thirds excellent vision ; and Mr. Bowman, in a paper upon extraction of cataract by the traction method, estimates the [recoveries at 82 per cent., whilst, the table of the cases I have here introduced, shows an average of recoveries equal to 94 per cent.

To what to attribute this success I scarcely know. Many of the operations were performed under the most trying circumstances, as regard conveniences for operating, light, etc. ; many of the patients lived in the worst parts of the town, under hygienic conditions which would frighten the least sceptical on these matters ; but, perhaps, after all, in some ways, they were better looked after than had they been in the most magnificent of hospitals, for I invariably did my dressings myself, instead of leaving them in the hands of pupils, or nurses, and this circumstance is one, probably, of the greatest importance.

It will be observed that all the cases given in the preceding table were operated upon by means of flap extraction, and I think, in spite of what has been written to the contrary, that in by far the majority of cases, this is the best form of operation that can be undertaken in cases of senile cataract. Many of our ablest oculists have never deviated from this opinion, and some of those who for a time became advocates of linear extraction are now gradually returning to the old method. The two principal objections that have been urged against flap extraction are that it is inadvisable to give chloroform on account of the risk of subsequent vomiting, and that the size of the flap exposes it to peculiar risks of sloughing. I believe these dangers have been much exaggerated, and as far as the administration of chloroform is concerned, I never press it upon my patients, because the operation is of so comparatively painless a character, that I do not believe it to be necessary except under special circumstances. About one-half of the patients above enumerated had this anæsthetic administered, several suffered from severe vomiting, and yet in no case did any accident occur for which I could blame chloroform. The case (No. 28) who had no chloroform, but was attacked with violent vomiting, combined with severe paroxysms of sneezing, yet he recovered with a perfectly central movable pupil and perfect vision. Suppuration of the corneal flap occurred in none of these cases ; and I cannot help thinking that the too common practice of keeping patients on low

diet after cataract operation has had something to do with its frequent occurrence heretofore. I rarely interfere with the ordinary habits of my patients in this respect, except to interdict substances which require much chewing, during the first few days.

Prolapse of the iris is one of the chief sources of annoyance, and frequently of danger after flap extraction, but it is easily rectified if it occurs at the time of the operation, by freely removing the prolapsed portion, taking care that no edges remain in the wound ; if it occurs later, it is best left to be dealt with at some future period, by means of puncture, caustic, or excision.

Iritis, so common after linear extraction, is far from rare after flap extraction ; it is occasionally very rapid in its progress, spreading to the choroid, and setting up suppurative choroiditis ending in the total destruction of the globe. This occurred in case No. 20, the inflammation spreading to the brain, and setting up violent delirium ; fortunately this complication is of such rare occurrence, that I can find no record of a similar case.